The OIL WEEKLY

10¢ A COPY

April 8, 1927 Volume 45. No. 3

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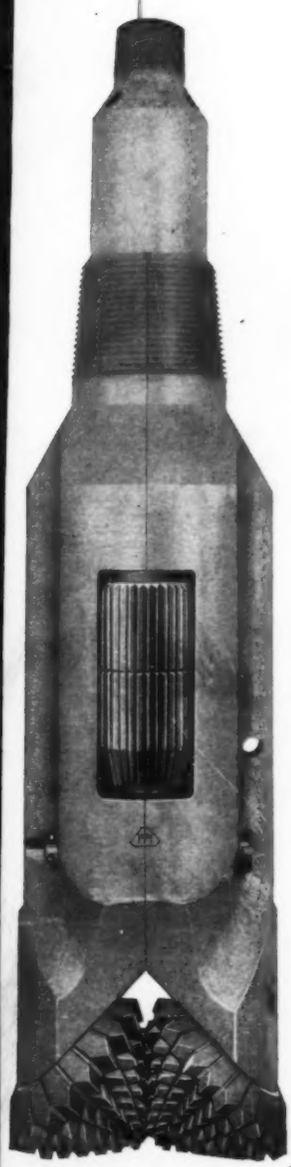


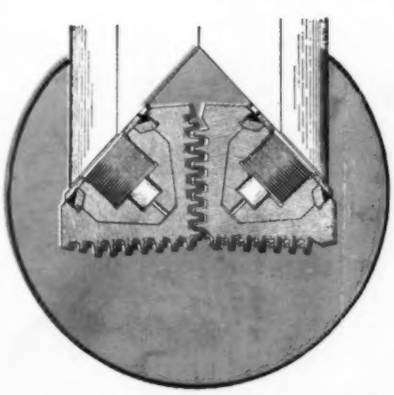
You Will Be Surprised When You First Use

HUGHES

"Self-Cleaning"

CONES

that you average from five to eight times more hole per set



The Hughes "Self-Cleaning" Cone is the most important invention to the Rotary Driller since the invention of the original Hughes Rock Bit.

"At Your Supply Store"

Hughes Tool Company

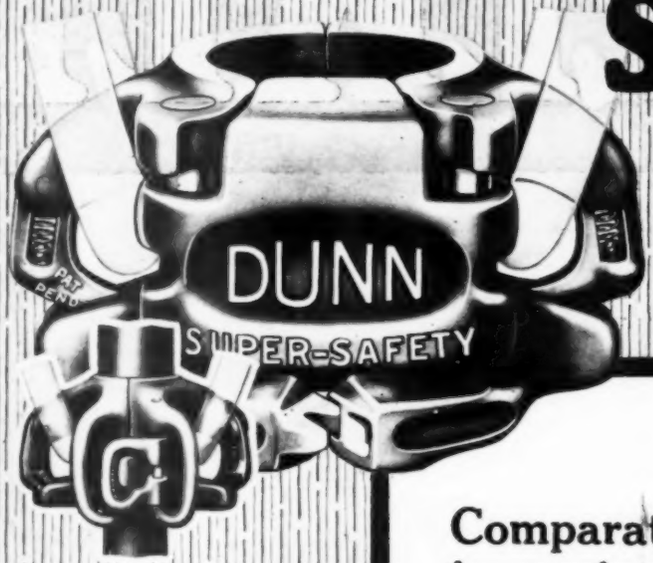
Service Plants: Los Angeles, Calif. Oklahoma City, Okla.

Main Offices and Plant HOUSTON, TEXAS

Export Office: New York City

DUNN TOOLAGRAM

Safety and Speed in the Superlative — super-safe and super-fast



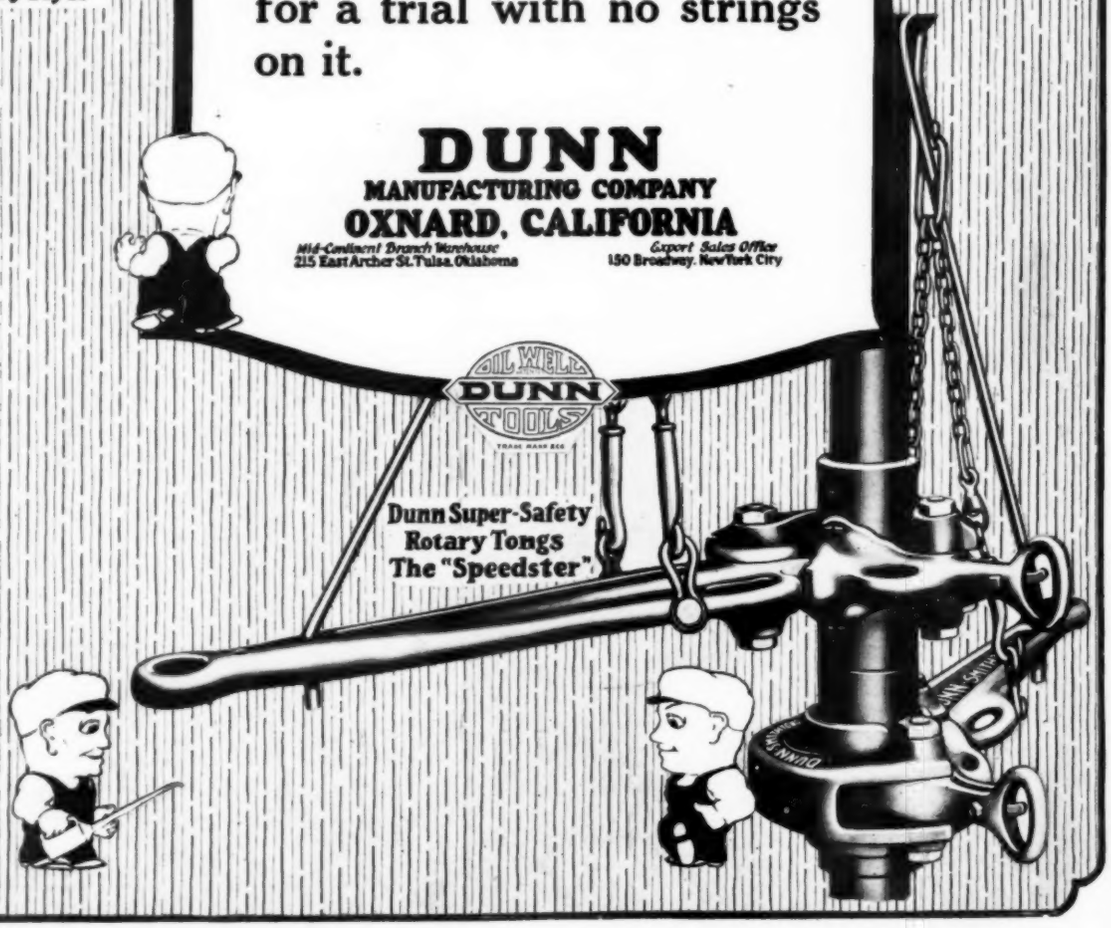
Dunn Super-Safety
Rotary Elevator
The "Rotary Flyer"

Comparative performance in service leaves no doubt of Dunn supremacy. Ask for a trial with no strings on it.

DUNN
MANUFACTURING COMPANY
OXNARD, CALIFORNIA

Mid-Continent Branch Warehouse
215 East Archer St. Tulsa, Oklahoma

Export Sales Office
150 Broadway, New York City



Dunn Super-Safety
Rotary Tongs
The "Speedster"

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 1716 Dallas Ave., Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.

SANDE... REPORTED
APR 11 1927
REF'D TO

Carefree Operation

AFTER ALL, the demands that you make of your pumps are very simple. All that you ask is that in addition to doing their work properly, they operate year in and year out with a *minimum of care.*

In explaining how well GASOS meet this requirement, we need only make two statements—

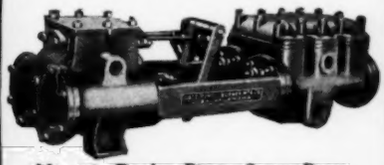
(1) GASO sales, without the aid of a high-pressure selling organization, have assumed world-wide proportions.

(2) Still another addition is being built to our plant.

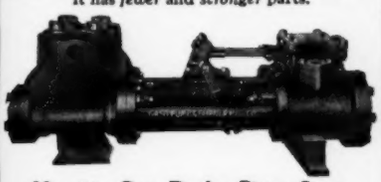
Our catalog is a 64-page book of pump information. May we send you your copy?

STEAM-DRIVEN PUMPS

Correct in Design—
Long Lived—Dependable



No. 401—Duplex Piston Steam Pump (175 to 800 pounds pressure) A general service model, widely used in the handling of heavy oils. Like all Gaso models, it has *fewer* and *stronger* parts.



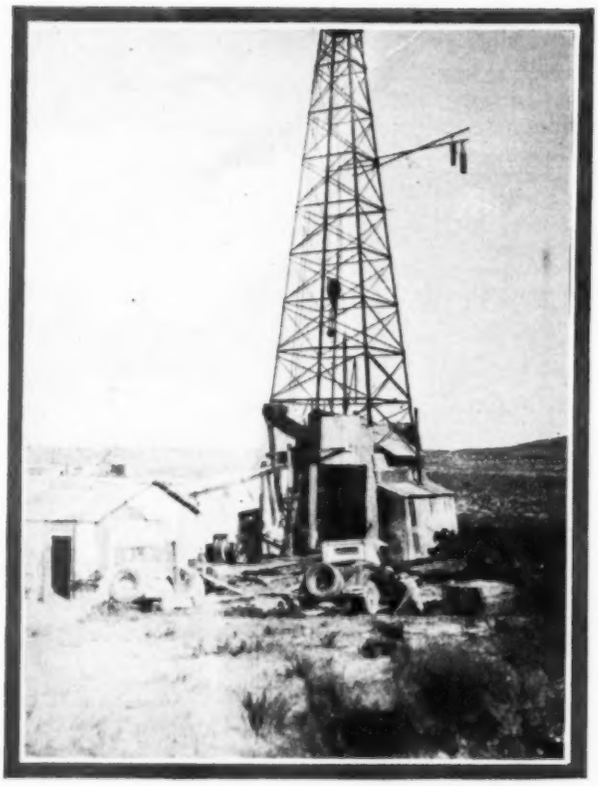
No 404—Gaso Duplex Piston Steam Pump for 500 to 800 pounds service. A high pressure pump, ideally suited for handling gasoline, acids, etc., under high pressure. Practically no gasket surface; *fewer* and *stronger* parts.

No. 407—Its ability to handle large capacities under high pressures has made this pump (600 to 800 pound) one of the most widely used of the Gaso line. Heavily constructed to withstand abuse. *Fewer* and *stronger* parts.

GASO PUMP & BURNER MFG. CO.
Tulsa · Oklahoma

GASOS forever

George McQueen, a mod
SAVES money by operating
and insures more SATISFAC



The above shows one of the wells which George McQueen is drilling with his Clark Senior Engine, and center, is the crew left to right: Tom Clark, driller; "Scotty," Clark Bros. Service man; and Tom Hagar, tool dresser.

It is a pleasure for us to recount the names of the larger producing companies which have found the CLARK Drilling Engine BETTER than steam and the BEST OF ALL DRILLING ENGINES. We could list name after name, all leaders among producers, over which endorsements of our Senior Drilling Engines have been sent us, telling of the money saved through faster and more economical drilling.

But the final proof of the CLARK SENIOR DRILLING ENGINE'S merit lies in the fact that the independent drilling contractor who values time and economy above all things in drilling for producers, has practically standardized on the CLARK ENGINE in most localities where bad water conditions and other adverse drilling situations exist. The independent contractor is NOT influenced in any way, except by personal conviction, and his drilling equipment purchases are made according to the dictates of his personal experience or those of his friends. In this way the CLARK ENGINE has come into widespread use among drilling contractors—and under the

We The CLARK Dri

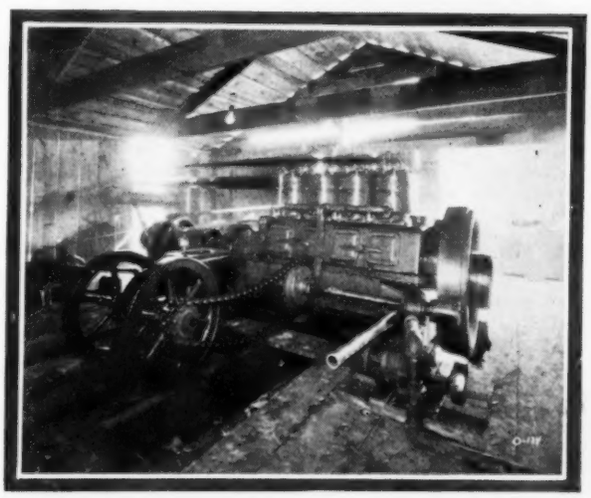
Clark Bros. Co. OLEAN N.Y.

odern drilling contractor,

ng CLARK Drilling Engines—
CTORY service to PRODUCERS

operation of contractors' drillers it has demonstrated its utter superiority to every other engine on the market, both in speedy, economical drilling, and in low maintenance cost and easy portability. The long life of a CLARK DRILLING ENGINE is a matter of wonder to those drillers whose experiences have been with some other type engine. After months and years of constantly being on the job with the same consistent brand of perfect performance, the CLARK principle of SLOW SPEED begins to assert itself as the only RIGHT principle in engine design. Where most other drilling engines literally POUND THEIR LIVES AWAY, due to fast speed and wasted power, the CLARK ENGINE delivers FULL RATED HORSE POWER in an IDEAL DRILLING MOTION, exactly like steam. It follows the drop of the tools to all depths better than any other engine made, and it puts POWER INTO THE PICK-UP.

We have prepared a special bulletin on the operation of our Senior Drilling Engines, which is yours for the asking.



Above is the Clark Engine with which George McQueen is drilling the well at left, near McCamey, Texas. McQueen has four Clark Engines drilling this district.

CLARK BROS COMPANY,
OLEAN, N. Y.

or

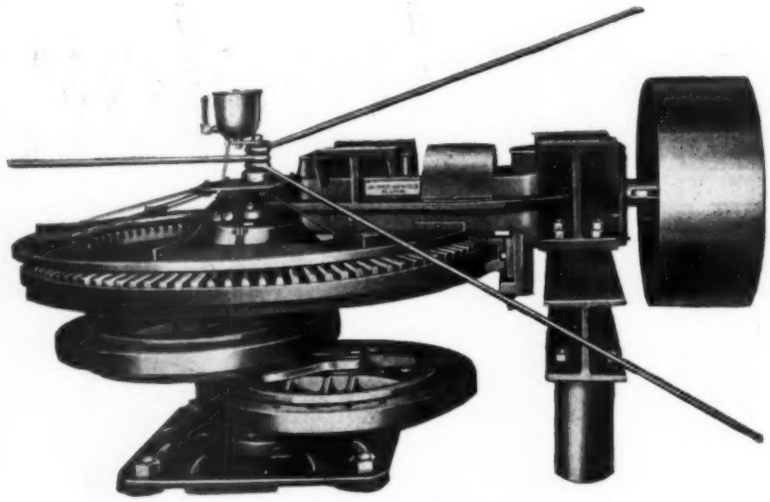
125 W. First Street,
TULSA

Warehouses at McCamey and Sweetwater, Texas
and Artesia, New Mexico,

or

SMITH BOOTH USHER COMPANY
125 S. Central Ave., Los Angeles
50 Fremont St., San Francisco

rilling Engine



Type PG Underpull Geared Power
1 Eccentric—2 Eccentrics

Type R—One Eccentric Geared Power

Type U Disc Geared Power

3

Types of

Reid Geared Powers

Write for descriptive literature

JOSEPH REID
Gas Engine Company
Oil City, Pennsylvania

BRANCHES AND AGENCIES: Marietta, Ohio; Logan, Ohio; Newark, Ohio; Shreveport, La.; Charleston, W. Va.; R. B. Moore, Bolivar, N. Y.; Frick & Lindsay Co., Bradford and Pittsburg, Pa., and Kentucky Distributors; S. R. Shoup, 724 Board of Trade Bldg., Los Angeles, Cal. Frick-Reid Supply Company, Tulsa, Okla., and Branches, Distributors for Oklahoma, Kansas, Texas, Arkansas and Wyoming.

BRANCH SHOP, TULSA, OKLA.

Say you saw it in The OIL WEEKLY

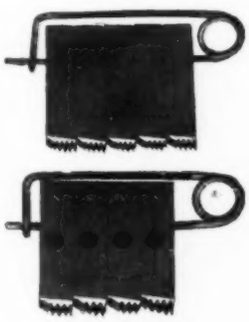
Nye Self-Locking Vise

No.	Pipe	Vise, Complete Net
00	⅛ to 2 "	$2.82
10	⅛ to 2½"	3.34
20	⅛ to 3½"	5.00
30	⅛ to 4¼"	7.33

NYE No. 51—Chain Vise
Capacity ⅛ to 2½ inches

A handy, compact little vise, possessing maximum strength, while of minimum weight. Easily carried in tool kit. Equipped with standard jaws. Having features not found in similar vises, the double lever tightening device being above the bench, rather than below, insuring faster and smoother operation.

Net Price $4.67
ABSOLUTELY GUARANTEED



Nye Chasers

Fit Nos. 1, 1A and 2 Receding Die Stocks

Each set is guaranteed in every particular. Will cut much easier than other similar dies.

No. 1, 1" to 1½" $ .75 per set net
No. 1, 2" ..... 1.25 per set net
No. 2, 2½" to 4" 3.60 per set net

Nye Drop Forged Pipe Cutter

No. 1-A ⅛ to 1¼".....$2.25 net
No. 2-A ⅛ to 2"..... 3.00 net
No. 3-A 1 to 3"..... 5.00 net

To the Oil Men of the U. S. A.

Friend Oil Men:

I never have been able to make brass look like gold or pass any dog-tags for twenty dollar gold pieces.

The only time I ever worked a counterfeit off on anybody was when I married the Missus. But I have made one tool recently that is pure gold.

THE NYE No. 2
(receding)
IMPROVED GEARED THREADING DEVICE

This tool threads pipe like a boy goes through a pair of pants. It makes threading pipe a pleasure.

A boy can operate it easily because of the geared feature. Capacity 2½ to 4".
A ratchet handle and a spider hub threaded for 1" pipe thrown in as standard equipment.

I will back this tool against any similar tool on the market and will refund your money cheerfully if you don't agree with me that it is the best tool of its kind you ever used.

Absolutely guaranteed. Sent on free trial to any dealer.

HARRY G. NYE

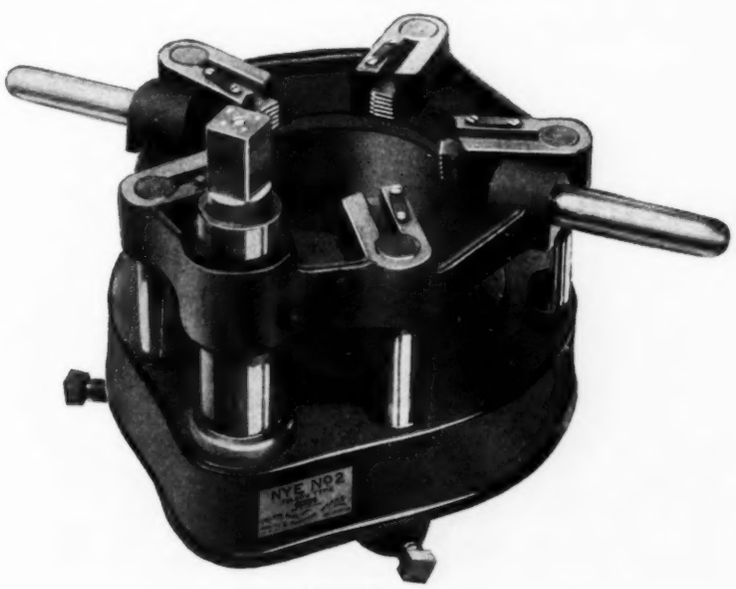
Otherwise Known As

THE NYE TOOL & MACHINE WORKS

4120-30 Fullerton Avenue

Chicago, Ill.

Note: Will see you again on Page Seven of Oil & Gas Journal, issue of April 14, 1927.



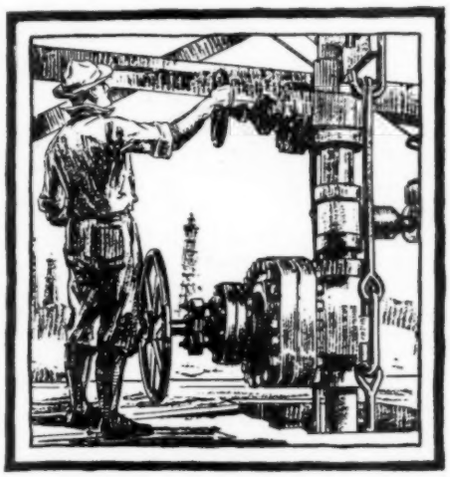
NYE No. 2
Geared Threading Device—Improved
Capacity 2½ inches to 4 inches Inclusive

Net price, complete $50.00
West of Rocky Mountains $55.00

Free Trial—Absolutely Guaranteed

Tested *in the factory*

Proven *in the field*



You take no chances when you buy Darling Valves. Their workmanship, ease of operation, and dependability have already been proven for you. You know what they will do, even before you see them do it— and that's **some satisfaction!**

Why lose production while production costs mount up? Why lose control of that for which you work so hard to get. Standardize on the valve that operates perfectly for the longest time under any condition. Specify "Darlings" and you can't go wrong.

DARLING VALVE & MFG. COMPANY

Williamsport, Pa.

New York Chicago Oklahoma City Houston

Mid-Continent Distributors:

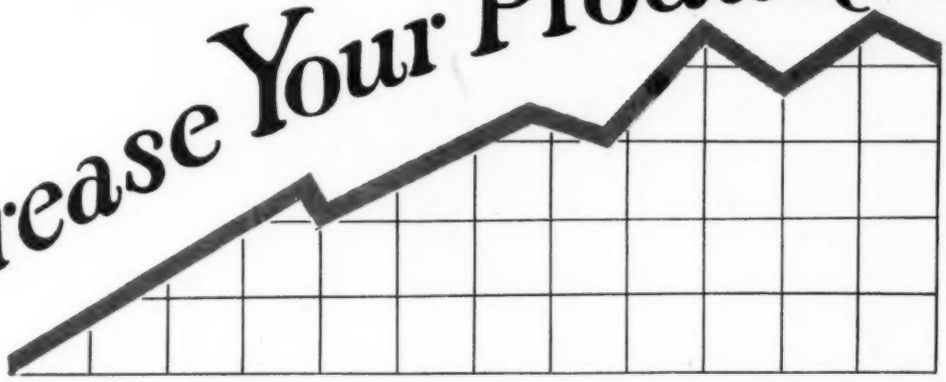
Frick-Reid Supply Co. Atlas Supply Co.
International Supply Co. Petroleum Supply Co.

California Distributor:

Petroleum Equipment Company, Los Angeles

DARLING
GATE VALVES

Increase Your Production



WRITE FOR THIS NEW WICO SERVICE

The chances are 700 to 1 that your gas engine is WICO equipped. You know that the WICO magneto stands the severe demands of oil field use. You know that it requires less service than any other magneto on the market. But by knowing your WICO better you can get even more service from it than you are now getting. For that reason we want to send you a series of brief but interesting bulletins on WICO construction and operation. If you are interested in increasing your production and decreasing your shut down time—sign and mail the coupon.

Standard Equipment On

Bessemer
Black Bear
Boos
Bovaird
Bovaird & Seyfang
Braden
Butler
Emsco
Evans
Foos
Franklin
Jones

Kootz & Stroehman
Lucey
Marion
McEwen
Oilwell
Pattin Bros.
Jos. Reid
Spence
Superior
Tico
Union Tool
Weber

WICO Electric Co.
Springfield, Mass.

WICO ELECTRIC CO.
Springfield, Mass.

Please send me your bulletin series on WICO Magnetos.

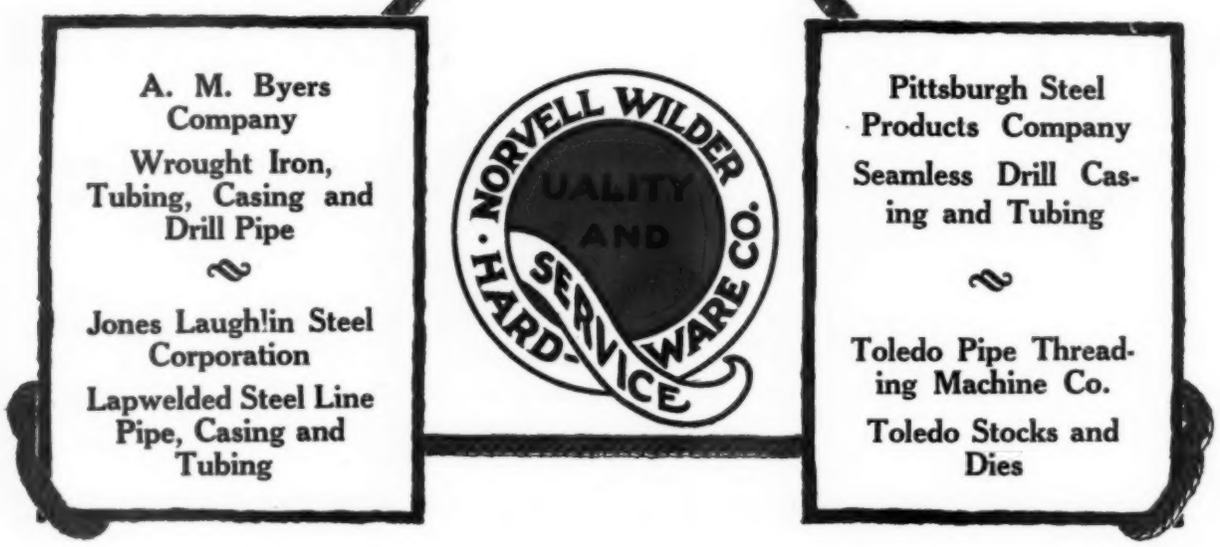
Signed . . . . . .

Street . . . . . .

City . . . . . County. . . . . State. . . . . .

Company . . . . . .

Oil field Supplies to tie to


A. M. Byers Company
Wrought Iron, Tubing, Casing and Drill Pipe
Jones Laughlin Steel Corporation
Lapwelded Steel Line Pipe, Casing and Tubing
NORVELL WILDER HARD-WARE CO.
QUALITY AND SERVICE
Pittsburgh Steel Products Company
Seamless Drill Casing and Tubing
Toledo Pipe Threading Machine Co.
Toledo Stocks and Dies

Worthwhile Supplies When You Need Them, well located distributing centers and complete stocks assure prompt service.

No need to keep your rig running at a loss while you wait for supplies, when Norvell Wilder can furnish them at once.

Write, Wire or Phone Your Needs

NORVELL WILDER Hardware Company

BEAUMONT HOUSTON SHREVEPORT FT. WORTH

Say you saw it in The OIL WEEKLY

METERS

AT THE HOME OF ACCURACY

these master instruments of measurement are made

Westcott Orifice Meters	Demonstration Dry Meters	American Calorimeters
Iron Case Meters	2-Light 3-Diaphragm Test Meters	Pressure Governers
Tin Gas Meters	Portable Test Meters	Cubic Foot Bottles
Demand Limiting Meters	Gas Soldering Furnaces	Gasometers
Curb Meters	Meter Provers	Gasing Machines
Gas Demand Meters	Pressure Gauges	Specific Gravity Apparatus
Gas Filters	Drip Pumps	Siphon or "U" Gauges
Station Meters	Service Cleaners	Pocket Test Gauges
Wet Test Meters		Thermometers

There is literature descriptive of each Metric Meter which is helpful. This is part of the complete Metric Measurement Service and is freely given upon request.

Write today

Metric Metal Works

of the American Meter Co., Inc.

ERIE, PENNSYLVANIA

SALES SERVICE: WESTCOTT & GREIS—TULSA, HOUSTON, LOS ANGELES.

ANNOUN

WILSON-SNYDER SLUSH PUMPS

For the Mile Deep Hole

Built by Experienced Builders

for

Hydraulic Pumps—10,000 lbs. pressure

Main Pipe Line Pumping Engines—first to pump Mexican Crude.

High Pressure Hot Oil Pumps—originators first successful pumps.

Sea-loading and Tanker—first speed records.

Special tank farm and oil transfer pumps.

Wilson-Snyder Slush Pumps on deep hole tests Met every Emergency

Say you saw it in The OIL WEEKLY

UNCING

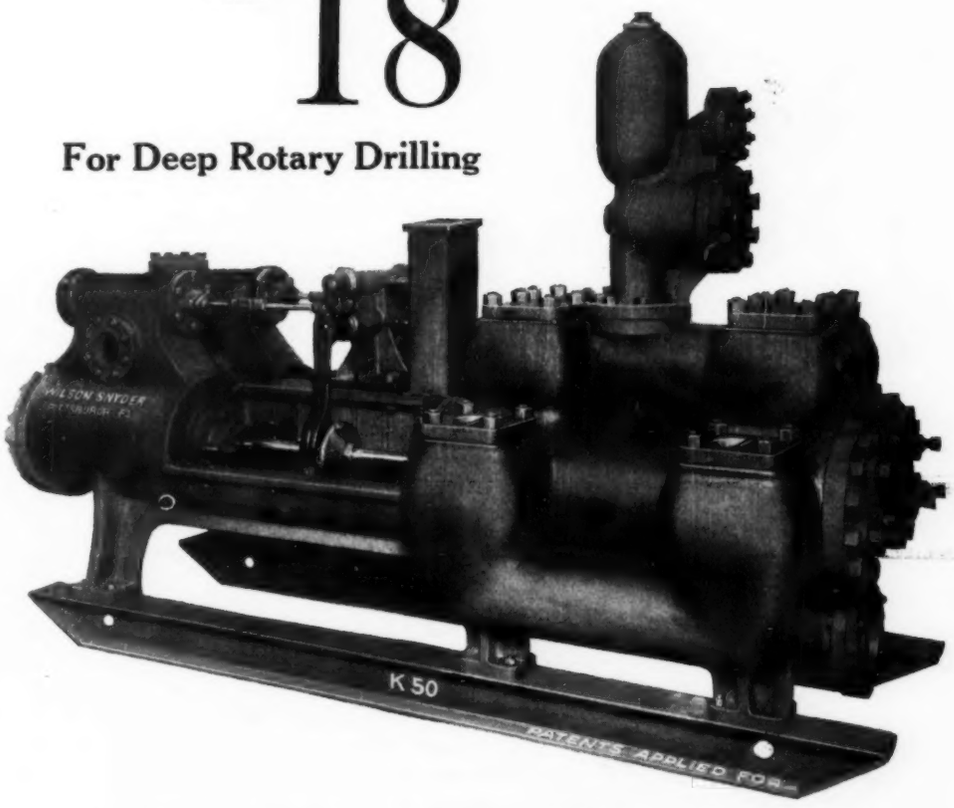
Long Stroke Direct Flow Slush Pump

now built by

Heavy Duty Pump Builders

No. **18**

For Deep Rotary Drilling



14 x 7 x 18" Stroke

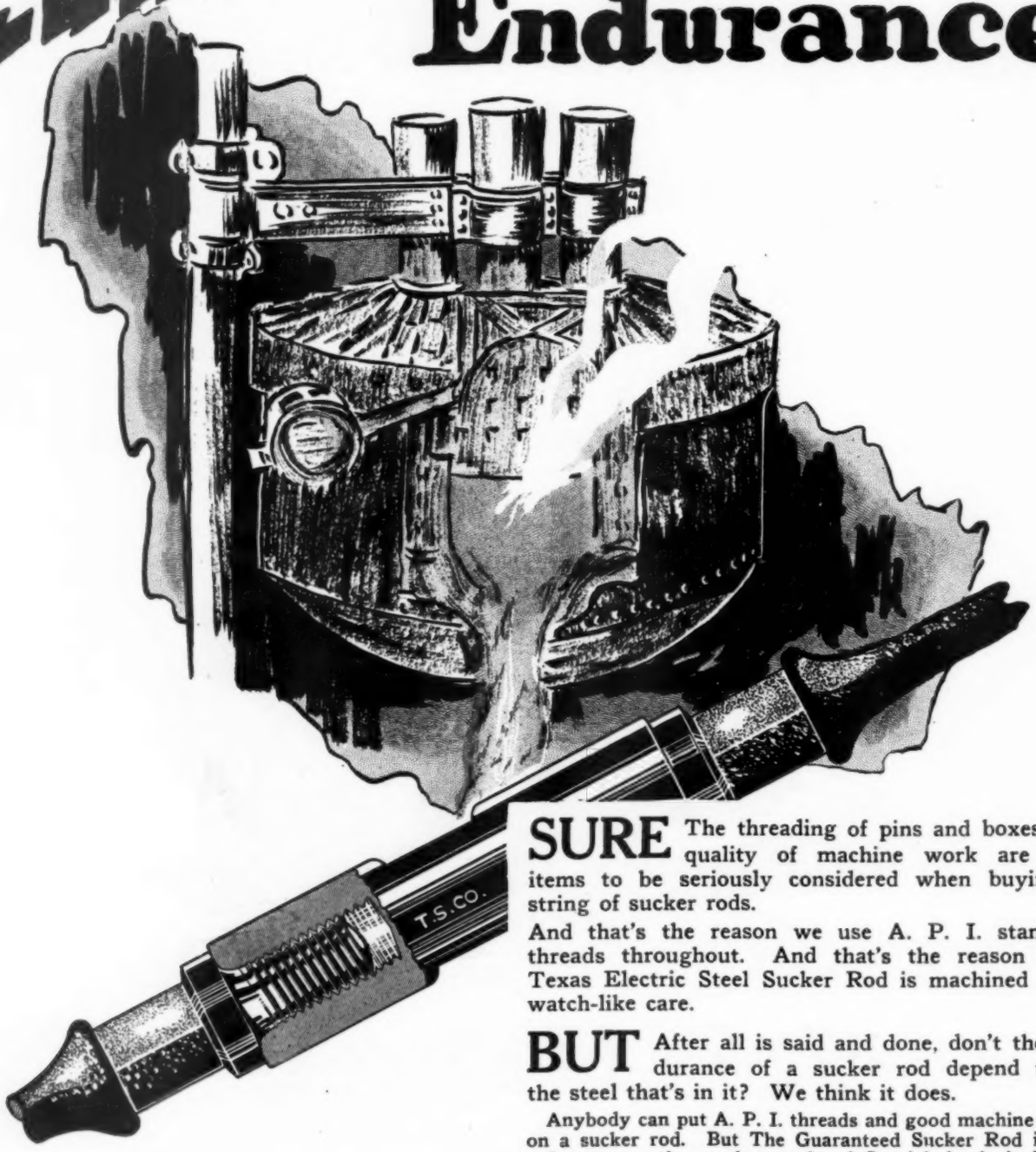
WILSON-SNYDER

BUILDERS OF HEAVY DUTY PUMPS FOR OVER FIFTY YEARS

PITTSBURGH, PA U.S.A.

DALLAS CHICAGO PHILADELPHIA NEW YORK

ELECTRIC STEEL *for* Endurance



SURE The threading of pins and boxes and quality of machine work are two items to be seriously considered when buying a string of sucker rods.

And that's the reason we use A. P. I. standard threads throughout. And that's the reason each Texas Electric Steel Sucker Rod is machined with watch-like care.

BUT After all is said and done, don't the endurance of a sucker rod depend upon the steel that's in it? We think it does.

Anybody can put A. P. I. threads and good machine work on a sucker rod. But The Guaranteed Sucker Rod is the only one on the market made of Special Analysis Texas Electric Steel . . and that's the reason we can guarantee it.

FROM SUPPLY HOUSES
Improved Jacks, Swings and Hold Downs, Nipples and Bull Plugs, Turnbuckles and Shackle Equipment, Casing Shoes, Heads and Steel Clamps, Castings.

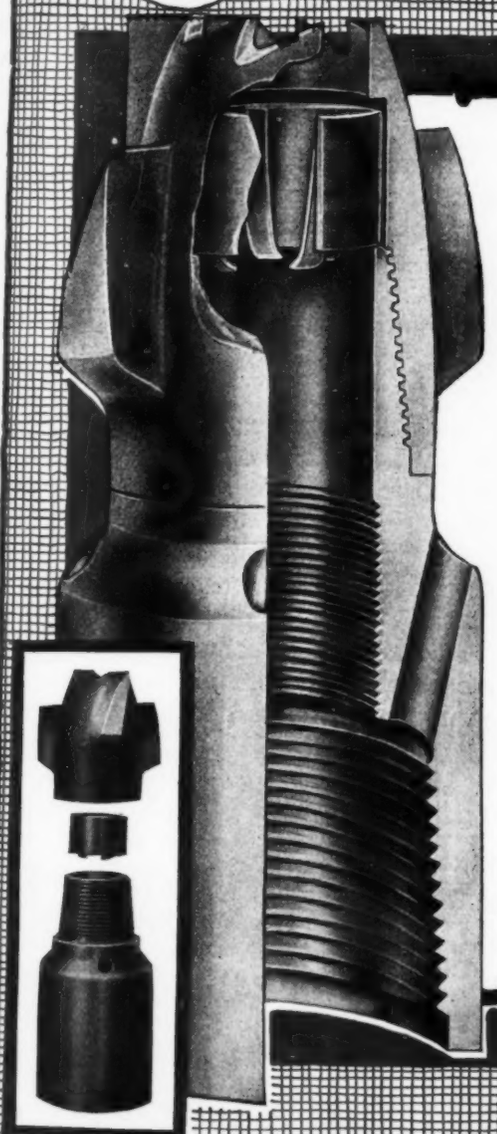
TEXAS STEEL CO.

ELECTRIC STEEL MAKERS, ROLLERS AND FINISHERS

FORT WORTH, TEXAS

Say you saw it in The OIL WEEKLY

The Phipps Core Bit Cheaper! than Rebuilding



Where facilities for rebuilding are not available, this new type Phipps Core Bit is particularly desirable.

The new Phipps Two-Piece Bit has the same core retaining features as the standard one-piece bit, with the outstanding advantage of cheap renewability, the worn cutting head being replaced by new ones when worn out or dull at approximately one-third the cost of the one-piece bit. When desired, they can be rebuilt with the electric arc or acetylene torch, the same as the one-piece bit.

The Phipps Bit is especially recommended for export orders, or for use in wildcat drilling, where equipment for repairs are not readily available.

Write us today for complete descriptive literature.

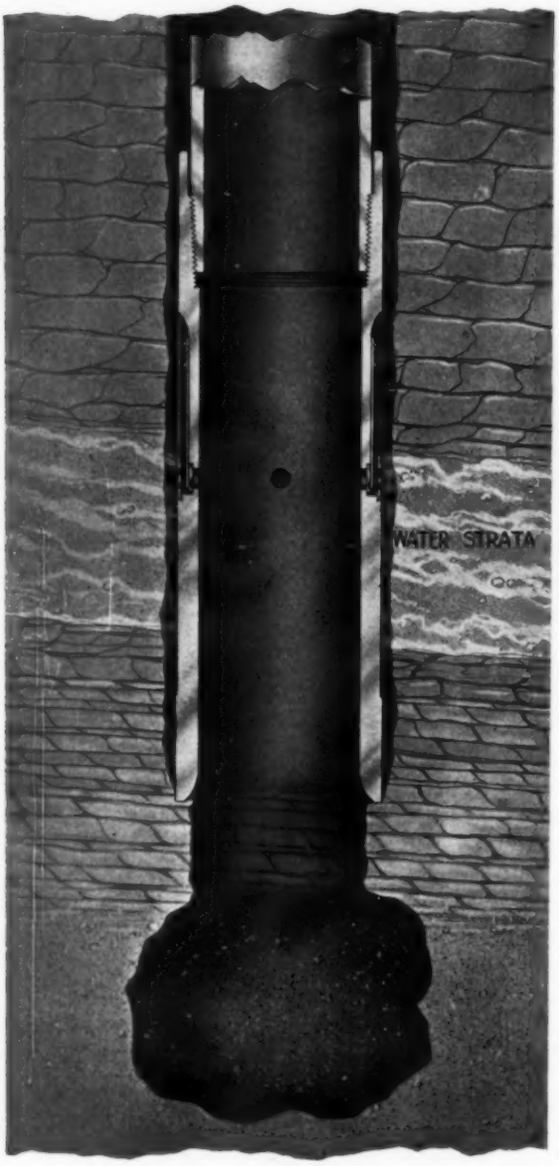
H. C. SMITH MANUFACTURING CO.

Whittier, California

Branch Offices and Warehouses:
Taft, California — Ventura, California

Harry B. Shine, Sales Agent, 2408 McKinney Avenue, Houston, Texas

All Supply Houses



Other Lorraine Products include almost every known specialty for oil well operation—wherever advanced methods of operation are in force, there you'll see a Lorraine device speeding up operation and cutting costs. Get our complete literature.

THE CROWELL

Makesure CEMENT BARREL

Lorraine Built

The Crowell "Makesure" Cement Barrel or Shoe takes the guess out of all cementing jobs. Backing up troubles, expected on some operations are impossible with the "Makesure" — perfect circulation at all times is an outstanding advantage.

Simple in construction — automatic in action and control it presents all that is desirable in advanced design and construction. Perfect water shut-off is dependable under all conditions. A complete and thorough description of the "Makesure" is contained in a little brochure which will be sent you if you'll drop us a line.

THE LORRAINE CORP.

[P. O. BOX 901-R.R.3] MANUFACTURERS AND DISTRIBUTORS OIL WELL SPECIALTIES [Phone Compton Main 116-R]

110½ and Alameda Streets

Los Angeles, Calif

Oklahoma Branch:
The Lorraine Corporation,
406 West First St.,
Tulsa, Okla.

Arkansas Branch:
Southern Specialty Co.,
523 So. Washington St., Box 1796,
El Dorado, Arkansas

Export Distributors:
Buck & Stoddard
25 Broadway,
New York City

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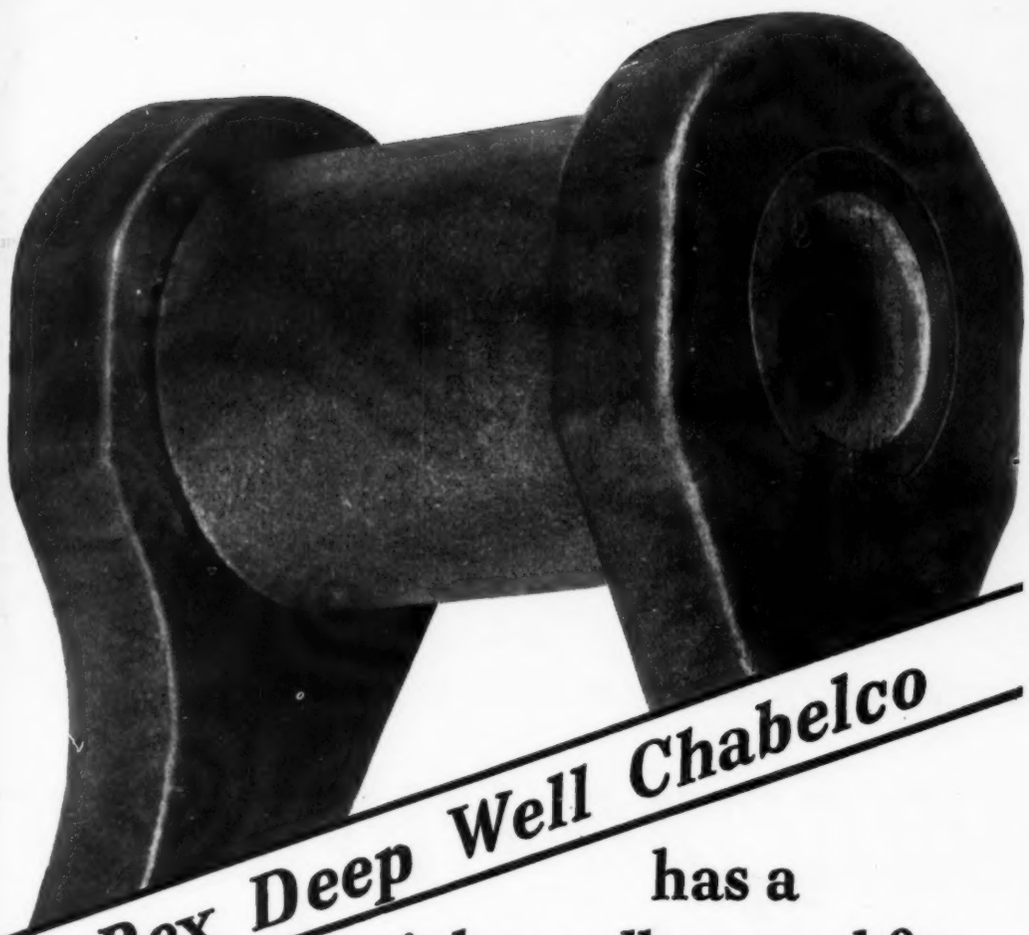


Rex Deep Well Chabelco has a tighter all around fit that gives longer life

Rex Deep Well Chabelco is an improvement on the old reliable Chabelco which has a record of many years' standing in the oil fields.

But it is more than that. It is an entirely new chain built especially for the highly destructive work of drilling the deep wells of today.

It has the uniform high strength that guarantees that the chain will not suddenly give way while the tools are in the hole.

It has more than that. It has the tighter all around fit, between bushings and sidebars, bushing and roller, and pin and bushings that allows the driller to take maximum advantage of its uniform high strength.

Because this fit is attained by accurately finished parts—the pins—and bushings are ground—made into a unit link by the slow smooth stroke of hydraulic machinery, the chains will ride smoothly over the sprockets and will last.

Rex Deep Well Chabelco 1030 DW 3 and 1240 DW 4 are stocked in oil field supply stores.

Rex Chabelco 1030 DW 3 is an A. P. I. 3-chain
Rex Chabelco 1240 DW 4 is an A. P. I. 4-chain
The tensile strength of 1030 DW 3 is 45,000 pounds
The tensile strength of 1240 DW 4 is 90,000 pounds

REX Deep Well CHABELCO

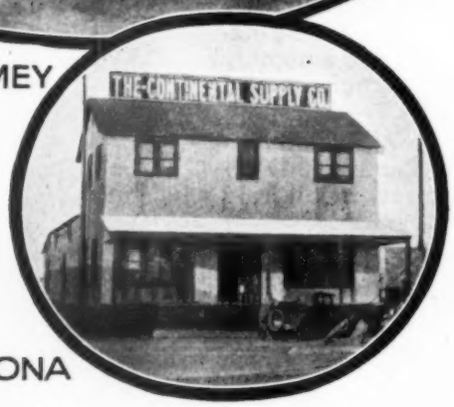
made by

CHAIN BELT COMPANY

1000 Keystone Building, Houston, Texas
739 Park Street, Milwaukee, Wis.
1414 Santa Fe Ave., Los Angeles, Calif.

BUFFALO CHICAGO CLEVELAND DETROIT HOUSTON LOS ANGELES NEW YORK PITTSBURGH PORTLAND MINNEAPOLIS SALT LAKE CITY SAN FRANCISCO SEATTLE ST. LOUIS

Announcing Our New Beaumont Store



Mc CAMEY

NOCONA

We are pleased to announce the opening of our new store, at Beaumont, Texas. Oil operators in the Beaumont district will find our stocks of pipe and supplies at this point complete, and will find our men ready to render the same kind of intelligent personal service that is characteristic of Continental's entire distributing organization.

The small photographs show two other Continental stores recently opened in Texas.

"If CONTINENTAL Sells It, There Is No Better"

The Continental Supply Co.

General Offices: St. Louis
Export Office: 72-76 Trinity Court, New York
London Office: 316-317 Dashwood House, Old Broad St., E. C. 2

CONTINENTAL

Say you saw it in The OIL WEEKLY

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A

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The OIL WEEKLY

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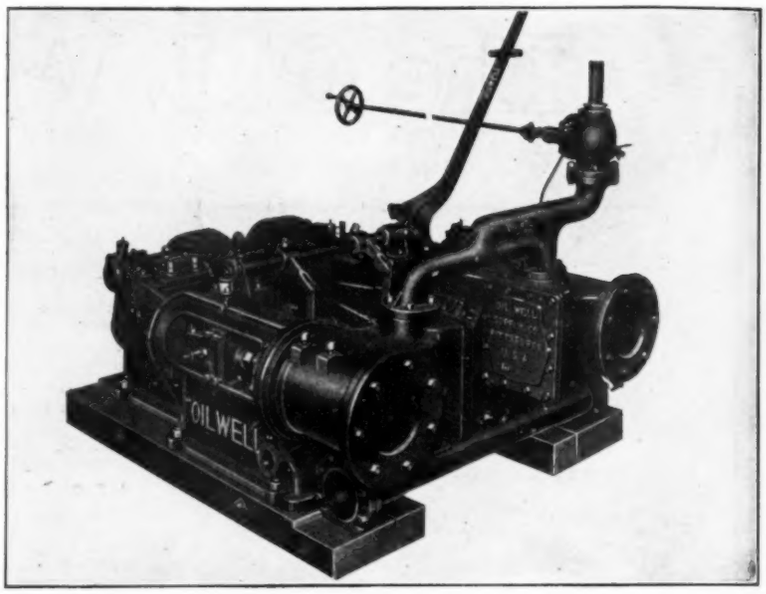

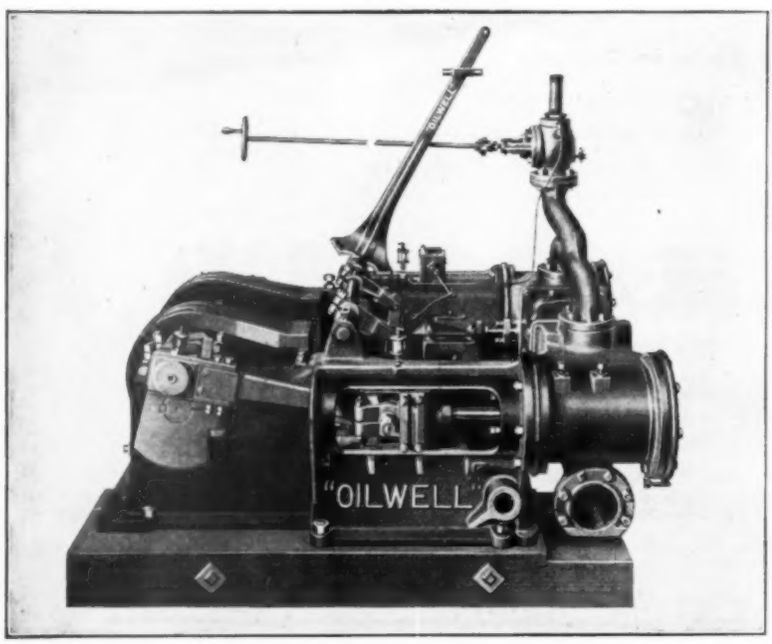

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Mid-Continent Producers Expect Another Cut

In Oklahoma the feeling is that further reductions are pending, while in North Texas the situation is more favorable

By KENT RIDLEY

ATTITUDE of producers toward the crude market situation is again sectional. In Oklahoma there is a strong feeling of pessimism over the prospect of an expected further reduction, while in the Texas Panhandle and North Texas districts the feeling is more hopeful. Seminole's continued performance is responsible for the Oklahoma situation, while better control of the output in the southern portion of the Mid-Continent has placed the producers there in a more favorable frame of mind.

Gasoline movement has not been as brisk as could be hoped for, and domestic jobbers are showing an inclination to name their own figures—below the refiner's idea of the market—in placing their orders.

California operators do not appear to be unduly concerned over the new price schedule there, and it appears that they take the lower rates as license for them to fill the storage they feel the cheaper oil will justify the buying companies building.

Production Up Again

The daily average production for all U. S. fields gained 15,950 barrels during the week ending April 2, with 2,477,900 barrels, according to estimates of the American Petroleum Institute.

A new peak at Seminole of 294,700 barrels during the week was the chief source of a gain of 13,050 barrels in Oklahoma. Earlsboro district in the Seminole area made 36,350 barrels daily during the week, representing only 50 barrels gain for the period.

Aside from Seminole, the most important increase came from the Texas Gulf Coast, where a 2250 barrel increase at Spindle Top served as the major factor in a 3650 barrel rise in daily average. A 1500 barrel gain came in the Eastern States, 700 barrels in North Louisiana, 450 barrels in Kansas and 50 barrels in the Mountain States. In the Mountain States general losses from Montana, New Mexico and Colorado served to offset a 1300 barrel gain at Salt Creek, Wyoming.

California underwent a 1400 barrel drop in daily average during the week, which was general in fields except in Ventura Avenue, where an increase of 2100 barrels was registered. Texas fields, outside the Gulf Coast lost in production amounting to 1950 barrels, which came chiefly from a slump in the Panhandle region. New big wells in West Texas failed to augment production because they were shut in shortly following completion. Arkansas lost 100 barrels during the week.

Oklahoma Expects Cut

Rumors out of Wall Street have brought the Mid-Continent petroleum industry to the attitude of expecting another crude oil price cut. Aside from banking rumors, the producers have been fearful and expectant for several weeks.

One Wall street publication has gone so far as to give the figures of the price schedule as it will read when the next cut takes effect. Authority for the prices, however, was not given. To support the report, however, executives of some of the larger oil companies have given interviews that lend weight to the rumors.

These interviews have called particular attention to the top heavy total of crude oil in storage. These have been sufficient to put producers in the frame of mind that will have no shock should a lower crude schedule be announced the first half of this month.

Another significant development is the effort larger concerns are making to increase facilities for storing oil. A few loans have been made for this purpose and others are in prospect. The following quotation is from the New York Times of April 2:

"An increasing amount of financing for oil companies is expected by investment brokers within the next few months. This is due to the large amount of oil that must be stored as a result of heavy production. There has not been much headway made in efforts to curtail production and supplies are piling up in various parts of the country. Storing is an expensive operation and several large companies are planning the use of special funds for this purpose."

Producers know that stored oil is going to be bought at the lowest consistent figure. They believe Mid-Continent oil can be bought at prices even lower than those now prevailing. So they look on this new financing as meaning lower crude prices.

In the Mid-Continent there is evidence of this shift of the major concerns to provide more storage. None of the larger Mid-Continent buyers, however, have sought funds for providing this tankage.

Prairie Shipments Increased

The Prairie Oil & Gas Company has been buying tanks from other concerns, as well as building additional tankage in order to take care of its purchases. This program will add around 10,000,000 barrels of tankage to the Prairie total when it is completed.

Shipments by the Prairie Pipe Line Company for March jumped to 5,449,688 barrels, a daily average of 175,796 barrels, a jump of 30,000 barrels daily compared with some recent months. Part of this increase was due to shipments from the Carter Oil Company for delivery to the Standard Oil Company (New Jersey).

The unsettled condition in crude oil circles is reflected in the attitude of jobbers toward gasoline. Although gasoline is being sold below its cost of manufacture and distribution, sales are not what conditions deserve. Jobbers evidently are confident of still lower prices.

Inquiries are numerous with refiners but many of these are inquiries at prices lower than those prevailing. Jobbers are willing to buy a half to a quarter of a cent below the market.

(Continued on page 46)

DETAILS ON CRITICAL FIELDS

Pool—	Oil Wells Completed	Total Initial Production	Initial Per Well	No. Producing Wells	Daily Production Barrels	Daily Production Per Well	Rigs Up	Wells Drilling
PANHANDLE—								
Hutchinson County	870	469,305	539	833	100,460	121	35	181
Gray County	111	30,630	276	110	7,585	69	5	50
Carson County	101	32,045	317	93	7,410	80	4	70
Wheeler County	24	9,070	377	21	2,340	111	5	28
Totals	1,106	541,050	489	1,057	117,795	110	49	329
WEST TEXAS—								
Church & Fields	32	38,165	1,193	31	15,865	512(*)	13	39
Gulf-McElroy	15	17,605	1,174	15	11,565	771	2	3
Totals	47	55,770	1,187	46	27,430	596	15	42
(*) Production pinched								
OKLAHOMA—								
Seminole District	376	395,406	1,051	313	330,230	1,055	41	350
CALIFORNIA—								
Seal Beach	30	45,407	1,513	24	30,475	1,269	38	88

Humble Will Build West Texas Line Direct to Coast

Ten and 12-inch screwed line will extend from McCamey to deep water terminal at Corpus Christi, distance of 390 miles

By WALLACE DAVIS
Staff Representative

Houston—Humble Pipe Line Company has announced plans for the construction of a combination 10 and 12-inch thread and coupled oil pipe line from McCamey field, Upton County, to Ingleside, near Corpus Christi, where the company has a terminal on deep water. The definite route, which the line will follow has not yet been laid out, but the survey work for the line has been started. The line is expected to be approximately 390 miles in length, varying southeastward from McCamey.

Humble Pipe Line expects to start laying the line during May, and plans are to have it completed before the close of the year.

Seven pump stations are to be installed, located at points according to the topography of the right-of-way. Capacity of the line will be 40,000 barrels daily.

To provide money for construction of this line and for completion of other pipe line projects now under way the Humble recently floated a loan of $25,000,000 through J. P. Morgan & Company.

Although the exact route of the line has not yet been decided on, it is planned to lay it as near in a straight line between McCamey and Ingleside as possible, considering long stretches of mountainous country the line will traverse. A straight line between the two points would put the line through northeastern Crockett County, southwestern Sutton, northeastern Edwards, Real, Uvalde or Bandera, Medina, Frio, Atascosa, Live Oak and San Patricio Counties.

Humble is now running around 8000 barrels daily of Mirando district crude to its deep water terminal at Ingleside through its six and eight-inch line completed in the fall of 1926.

Of the daily production of roughly 50,000 barrels in Crane and Upton Counties at present, about 8000 barrels is being handled through Humble's skimming plant at McCamey, while a great part of the remainder is being run into storage at the fields

On completion of the present line project the Humble will be in a condition to extend the western line over any new territory at an advantage, using a gathering system like the present one in use in that territory, and move the crude direct to deep water at the 40,000 barrel daily rate.

Humble's eWst Texas pipe line system begins at the central tank farm and refinery site on section 65, block 35, near McCamey, Upton County, and has a six-inch line extending from this point through the Gulf-McElroy and to Church & Fields areas, Crane County. An eight-inch line parallel with the six-inch has just been completed to aid in taking care of the flush production coming up in Church & Fields area. Humble's trunk line from McCamey to Kempner station, near the Big Lake field is made up of eight and 10-inch pipe, and from McCamey to Comyn the line is double eight-inch, having a maximum daily capacity of 40,000 barrels in warm weather, and 38,000 barrels in cold weather. The line from McCamey to Comyn is 232 miles in length.

A ten-inch pipe line project similar to that being carried out by Humble from West Texas to the Gulf Coast has been under consideration lately by the Southern Pipe Line Company, a subsidiary of Standard of Indiana, but the latter company's line would begin in the Hendricks field, Winkler County, where a large potential production is believed to exist with two flowing wells in the field at present.

The Southern Pipe Line Company has offered the only competition experienced by Humble in obtaining crude connections and contracts in West Texas, and the former has a 72 car capacity rack at McCamey, with a gathering system connected with all the producing fields in Upton and Crane Counties. The Southern is also completing a 72-car capacity rack at Wickett, Ward County, with a combination six and eight-inch line connecting with the Hendricks field, Winkler County, involving about 17 miles of line. Southern announced some months ago that more than 50,000 barrels of West Texas crude was desired daily, and this crude is to be consumed at the Pan-American's refinery at Destrehan, Louisiana.

Humble has a 5000 barrel daily contract with Gulf for crude from the Gulf-McElroy field, and a similar contract with the Illinois Pipe Line Company for Yates field, Pecos County, crude, while a contract made late last year with Marland affords Humble a maximum of 10,000 barrels daily, if the crude is available. Humble also is taking 20,000 barrels of Big Lake field crude daily on contract, and a supplemental contract with the Big Lake Oil Company calls for an additional 10,000 barrels daily, if available. The latter contract with Big Lake Oil Company expires May 15, 1927.

The new project of Humble Pipe Line Company faces problems unlike any other line yet laid in Texas due to the nature of the country crossed. Approximately one-half of the distance, beginning in Crockett County, is mountainous, and it is believed considerable curving will be necessary to negotiate the hills and canyons. It is figured, however, that the line will not follow a rougher course from the perpendicular standpoint than was crossed by the present Humble line now under construction from the Panhandle to the Gulf Coast.

Eighth Annual Meeting in Chicago

The Eighth Annual Meeting of the American Petroleum Institute will be held at the Stevens Hotel, Chicago, Illinois, December 6, 7 and 8, 1927. The Stevens is now in course of construction and will be opened for business about May 1st but reservation of hotel rooms and accommodations for the annual meeting may be made now by addressing the hotel directly. The hotel has a frontage of an entire block between Seventh and Eighth Streets on Michigan Boulevard and will have 3000 outside rooms with bath. There are ample facilities for committee meetings, group sessions and the Annual Dinner.

B. L. Duryea, president of the Duryea Manufacturing Company, Bayonne, N. J., manufacturers of Wooster Belts, and Erwin Goldschmidt, district representative of the company at Dallas, were in Houston on a business trip late last week.

Seminole Water Intrusion Begins to Give Concern

Some operators believe that back pressure from gas-air lift has been aid in deferring appearance of water in wells

By ROYE MUNSELL
Staff Representative

IT is only within the last few months, about two, to be more exact, that water has been showing to any significant degree in the Seminole City field. Prior to that time occasionial wells were showing water in varying amounts. The appearance of water, however, was not in such a manner so as to indicate that it might become an object of much practical concern to operators for some time to come.

As is shown on the accompanying map, at this time about 40 per cent of the Wilcox sand wells in the Seminole field are showing water.

In regard to this map, it ought to be said at the outset that it is not intended to indicate the degree of water intrusion in any given well, but rather the extent to which water is being found in the field at this time. It ought to be pointed out further that the wells which have been included in the indicated "water area," are in one or two instances, not consistent "water wells" but only show water to the degree of more or less of a trace. On the other hand, not a few of the indicated wells produce almost all water. In other words, a well making only as much as a trace of water is cast into the same lot with wells making nearly all water.

Apparently the most interesting thing about this water map is its seeming inconsistency. From it, it would seem that there is no necessary relation between water and any other condition of circumstance in the field.

In many fields there is any apparent general relation between the life of a well and the amount of water it is making. This does not seem to be the case in the Seminole City field.

Not Regular

Take, for instance, the 40 acres in the northeast quarter of the southwest quarter of section 24-9-6. The first well was completed there in September, 1926, and except the discovery well, was one of the first wells in the field. The second well was completed the following month and the additional wells added in short order. This lease in section 24 is making water in particularly large quantities. Two of the wells are virtual "water wells."

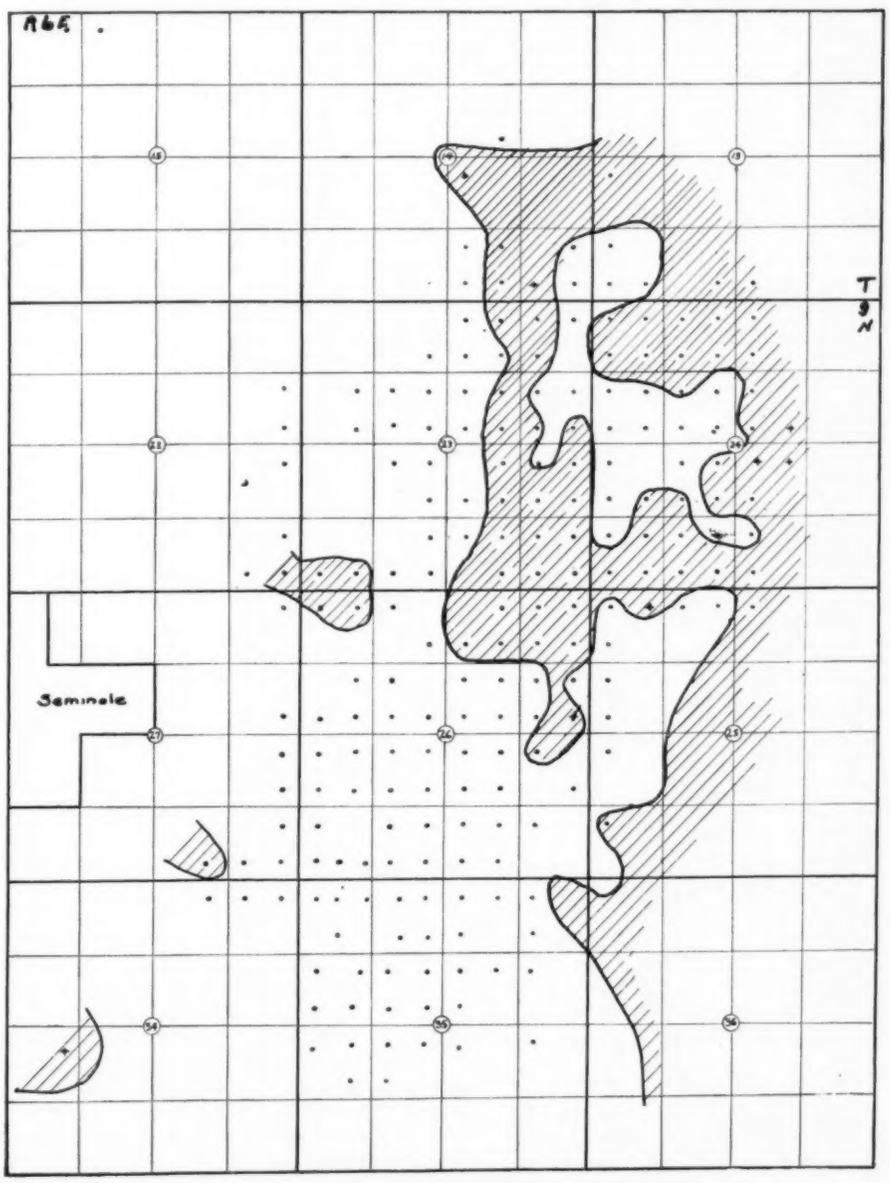
Take on the other hand, the 40-acre tract which comprises the southwest quarter of the northeast quarter of section 26-9-6. The original Wilcox sand discovery well was drilled on this parcel during July. This well has never been reported making water, neither have the other wells on the same forty. On the adjoining 40 acres to the east, it will be noticed, however, there was a failure.

In going into the ultimate recovery per acre in the field, some interesting information is available on the above forty in section 24-9-6. This tract has apparently about finished its productive life. The recovery from the forty to date has been slightly less than 1,000,000 barrels of oil, it is estimated. Going on the operators' opinion that production is nearing the end, the ultimate yield will be in the neighborhood of 25,000 barrels per acre.

Relation to Structure

By superimposing the water map of the field on another map which shows

(Continued on page 32)



MAP SHOWING WATER ENCROACHMENT IN SEMINOLE FIELD

Bureau Figures for February Highest Production Recorded

Stocks of all commodities materially increased, with runs to stills near high record of last November

WITH a daily average production amounting to 2,424,000 barrels, United States output of crude oil for February reached the highest figure ever recorded, according to statistics recently released by the Department of Commerce, Bureau of Mines. The total recovery for the month was 67,874,000 barrels.

The Mid-Continent district was responsible for the increased output. In this district, the largest single factor was the Seminole field composed of several pools in the vicinity of the town of Seminole, Okla. This field struck its stride and averaged 275,000 barrels for the month. Inadequate pipe line and storage facilities kept the field from producing at capacity, however. A check at the close of the month showed that the major portion of the production was being shipped as produced, that considerable was stored in tank farms, but that very little oil was added to producers' storage, that is storage at wells. The report points out that this situation is in direct contrast to Smackover, where large amounts were stored in open pits in the boom days.

Imports showed little change in February as compared with January. Mexican shipments dropped off slightly, but were more than offset by imports from Venezuela.

In view of the record production, crude stocks were materially increased. East of California, stocks on hand at the end of the month totaled 285,458,000 barrels. This gave an increase of approximately 6,500,000 barrels over the January total, which was 278,972,000 barrels.

Stocks of both light and heavy crude in California decreased during the month.

There was no apparent let-down in the natural-gas gasoline industry in February, when a new daily average production record of 4,400,000 gallons was established. As compared with the previous month, this represents a gain of 3 per cent, or 140,000 gallons per day. Texas led in this increase.

At the end of the month stocks had increased 2,500,000 gallons.

Runs to stills totaled 63,531,000 barrels, of which 60,202,000 barrels was domestic crude, and 3,149,000 barrels was foreign crude. The total represents a daily average of 2,263,000 barrels, which is very close to the record figures of last November.

Total gasoline production was 25,024,000 barrels, or 894,000 barrels daily. According to the report this was the first time since July, 1926, that gasoline output has failed to increase.

Indicated domestic demand rallied from the slump of the previous month, the daily average of 651,000 barrels being an increase over January of 13 per cent, and 15 per cent over February, 1926.

Stocks of gasoline increased 3,656,000 barrels during the month.

ANALYSIS OF SUPPLY AND DEMAND OF ALL OILS

(Including wax, coke, and asphatl in barrels of 42 U. S. Gallons)

	December, 1926	January, 1927 1*	February, 1927	February, 1926
SUPPLY:				
Domestic crude production:				
Light	59,656,000	60,473,000	57,848,000	44,731,000
Heavy	12,405,000	11,002,000	10,026,000	9,835,000
	72,061,000	71,475,000	67,874,000	54,566,000
Daily average	2,325,000	2,306,000	2,424,000	1,949,000
Excess of daily average domestic production over domestic demand	279,000	425,000	483,000	139,000
Imports:				
Crude	4,988,000	4,514,000	4,181,000	3,743,000
Refined	1,318,000	1,269,000	1,508,000	2,001,000
Total supply all oils	78,367,000	77,258,000	73,563,000	60,310,000
Daily average	2,528,000	2,492,000	2,627,000	2,154,000
Change in stocks all oils	3,425,000	7,691,000	8,355,000	2* 421,000
DEMAND:				
Total demand	74,942,000	69,567,000	65,208,000	60,731,000
Daily average	2,417,000	2,244,000	2,329,000	2,169,000
Exports: 3*				
Crude	1,283,000	1,204,000	1,165,000	1,049,000
Refined	10,235,000	10,062,000	9,686,000	8,998,000
Domestic demand	63,424,000	58,301,000	54,357,000	50,684,000
Daily average	2,046,000	1,881,000	1,941,000	1,810,000
Excess of daily average domestic demand over domestic production	(see above)	(see above)	(see above)	(see above)
STOCKS (end of month):				
Crude:				
East of California: 4*				
Light	225,217,000	230,013,000	236,872,000	229,984,000
Heavy	52,860,000	48,959,000	48,586,000	58,080,000
California:				
Light	30,861,000	31,017,000	29,770,000	44,871,000
Heavy 5*	87,270,000	87,971,000	87,640,000	86,744,000
Totol crude	396,208,000	397,960,000	402,868,000	419,679,000
Total refined	123,245,000	129,184,000	132,631,000	122,895,000
GRAND TOTAL LIQUID STOCKS	519,453,000	527,144,000	535,499,000	542,574,000
Bunker oil (included above in domestic demand)	4,066,000	3,940,000	3,579,000	3,232,000

1*—Revised. 2*—Decreases. 3*—Includes shipments to non-contiguous territories. 4*—Exclusive of producers' stock. 5*—Include fuel oil.

First Showing of Safety Film in Louisiana

Tulsa, Oka.—First showing of the 1927 film of the Petroleum Safety Council of the Mid-Continent Oil & Gas Association is now under way in Louisiana. The itinerary began at Shreveport March 29 and will end at Harmon April 8.

The film this year is entitled "Progress of Safety in the Mid-Continent Territory." It is the first film made under the direction of Don J. Wallace, chairman of the council, who took up his duties early this year, following the return of Ray E. Miller to the Marland Oil Company at Ponca City.

The film will be shown throughout the Mid-Continent during the yeau. The Louisiana itinerary follows: Shreveport, March 28 and 29; Bellevue, March 30; Homer, March 31; Haynesville, April 1; Cotton Valley, April 4; Mooringsport, April 5; Oil City, April 6; Gilliam, April 7; Harmon, April 8.

Humble Superintendents Meet

Houston.—Humble Oil & Refining Company division superintendents met in the headquarter office at Houston Monday of this week for a three day meeting. The program was carried out in round table discussion style, and subjects such as shutdown program, wage scale, organization work and engineering problems were brought up for exchange of ideas among the men. John R. Suman, director of Humble in charge of production outside of the Gulf Coast district, presided over the meeting.

Division superintendents at the meeting were: Bert Broday, Wichita Falls; David Frame, Amarillo; C. B. Goddard, Ardmore, Okla.; D. B. Harris, Shreveport; R. W. Richmond, Corsicana; W. W. Wallace, Cisco; B. N. Wiseley, San Angelo; and M. "Bink" Manning, Houston territory.

Rush Storage to Care for West Texas Production

Output of area is keeping pace with space provided in storage and rail shipments through numerous loading racks

By H. H. KING
Staff Representative

San Angelo, Texas.—Large steel storage tanks and tank ar rack loading facilities now govern the daily oil production in the West Texas district, and production will be opened up as fast as accommodations can be had for the oil as produced. New tankage is moving into West Texas fields in large volumes, with the greatest demand coming from the Church & Fields and McElroy areas in Crane County; Winkler County and the Yates shallow field in Pecos County. Large tankage now completed and under construction in the West Texas district amounts to a total of 6,550,000 barrels, of which 5,126,000 barrels is ready for use, while the remaining 1,424,000 barrels is under construction. These figures include sizes ranging from 37,500 barrels to 80,000 barrel tanks.

Pending flush production scheduled for April and early May, from the Church & Fields area has sent the producers and pipe line companies in this field scurrying for additional tankage for lease and for construction in the field proper. Simms Oil Company and Atlantic Oil Producing Company have each started work on a pair of 55,000 barrel tanks to store their oil produced above pipe line facilities, while Magnolia completed two of the same size during the past week. Humble built the first 55,000 barrel tank in the field prior to running a 6-inch pipe line up from McCamey station, and has three more 55's building. Carl Cromwell and Frank Pickrell have one 55,000 barrel tank building, and five more planned. Eastland Oil Company and J. D. Collett-O'Keefe have one 64,000 barrel tank about completed. Gulf has two 80,000 barrel tanks completed on the McElroy property, located south of the field and has four 55's completed and six 80's building at Midland tank farm and rack, same being connected by line with the Church & Fields and McElroy areas.

The Yates field, Pecos County, has three 55's completed and a fourth tank building. This tankage belongs to the Illinois Pipe Line Company, subsidiary of the Ohio Oil Company, and the latter company will complete during the current week a 6-inch line from the tanks to McCamey, where 5000 barrels of oil will be delivered to Humble daily on contract.

COMPLETED STEEL STORAGE

Steel tankage facilities completed and building in ten counties in West Texas offers a combined capacity of 6,550,500 barrels, of which 5,126,500 barrels is completed and 1,424,000 barrels is under construction. The completed and building tankage is shown below by counties:

County—	Tanks Completed in Bbls.	Tanks Building in Bbls.
Crane	362,500	504,000
Crockett	55,000	.....
Jones	55,000	.....
Midland	220,000	480,000
Mitchell	110,000	110,000
Pecos	165,000	55,000
Reagan	2,755,000	.....
Upton	1,349,000	220,000
Ward	.....	55,000
Winkler	55,000	.....
Total	5,126,500	1,424,000

A shut-down agreement made last week among close-in lease owners in the Hendricks field, Winkler County, has postponed a big tank building program for this field, as more than a dozen locations were held up on proven leases through the operators having gotten together. The Southern Crude Oil Purchasing Company, owners of the discovery well, and Gulf, have the only production, while Humble, Pure and the Independent Oil and Gas Company have wells to complete, according to terms of the agreement. Southern Pipe Line Company has a 55,000 barrel tank located near the field, and is building a combination 6 and 8-inch line from this tank to tank farm and tank car loading rack at Wickett, Ward County, where the oil will be loaded in cars and shipped to the Pan-American refinery at Destrehan, La. Southern

LOCATION OF TANKS IN WEST TEXAS DISTRICT

A complete list of all large steel tankage in use and under construction in the West Texas district.

	No. Tanks Completed	No. Tanks Building	Size Tanks in Bbls.	Location—
CRANE COUNTY				
Atlantic Oil Prod. Co.	2		55,000	e½ ne¼ sec 45, blk 30, University Lands
Cromwell & Pickrell	1		55,000	sw¼ sec 47, blk 30, University Lands
Eastland Oil Co. et al	1		64,000	sw¼ nw¼ sec 47, blk 30, University Lds.
Gulf Pipe Line Co.	2		80,000	ne¼ sec 202, blk "F", CCSDRGNG sur.
Humble Pipe Line Co.	1	3	55,000	nw¼ sec 36, blk 30, University Lands
Magnolia Pipe Line Co.	2		55,000	w½ ne¼ sec 45, blk 30, University Lands
Simms Oil Company		2	55,000	e½ ne¼ sec 45, blk 30, University Lands
Texas Pipe Line Co.	1		37,500	w¼ sec 22, blk 35, H&TC survey.
CROCKETT COUNTY				
Humble Pipe Line Co.	1		55,000	s½ sec 2, blk BB-2, N. A. Miller survey
JONES COUNTY				
Phillips Petroleum Co.	1		55,000	nw¼ sec 19, blk 19, T. & P. Ry. survey.
MIDLAND COUNTY				
Gulf Pipe Line Co.	4		55,000	s½ sec 41, blk 34, T. & P. sur, Tsp 1-S
Gulf Pipe Line Co.		6	80,000	s½ sec 41, blk 38, T. & P. sur, Tsp. 1-S
MITCHELL COUNTY				
Magnolia Pipe Line Co.	2	2	55,000	ne¼ sec 47, blk 29, T. & P. sur, Tsp. 1-N
PECOS COUNTY				
Illinois Pipe Line Co.	2		55,000	e½ e½ sec 60, blk 1, I&GN Ry. sur.
Illinois Pipe Line Co.	1	1	55,000	e½ e½ sec 61, blk 1, I&GN Ry. sur.
REAGAN COUNTY				
Big Lake Oil Company	12		55,000	sec 11, blk 2, University Lands
Humble Pipe Line Co.	5		64,000	se¼ sec 11, blk 11, University Lands
Reagan Co. Pur. Co., Inc	16		80,000	sw¼ sec 11, blk 11, University Lands
Texon Oil & Land Co.	9		55,000	secs. 35 and 36, blk 9, University Lands
UPTON COUNTY				
Humble Pipe Line Co.	13	4	55,000	n¼ sec 65, blk 35, H&TC Ry. survey
Marland Pipe Line Co.	3		80,000	e¼ sec 64, blk 35, H&TC Ry. survey
Marland Pipe Line Co.	4		55,000	e¼ sec 64, blk 35, H&TC Ry. survey
South'n Crude O. Pur Co.	2		55,000	nw¼ sec 64, blk 35, H&TC Ry. survey
The Texas Pipe Line Co.	1		64,000	w¼ sec 66, blk 35, H&TC Ry. survey
WARD COUNTY				
South'n Crude O. Pur Co.	1		55,000	sec 20, blk "F", G&MMB&A survey
WINKLER COUNTY				
South'n Crude O. Pur Co.	1		55,000	n½ ne¼ sec 6, blk B-12, P. S. L. survey

WEST TEXAS TANK CAR LOADING RACKS

Tank car racks located on the Texas & Pacific and Orient Railroads in the West Texas district are listed below by counties, showing the owners, car capacity and location of each rack:

Rack Owner—	Railroad Point	Capacity in cars	Location rack—
HOWARD COUNTY			
Marland Pipe Line Company	Coahoma	10	Sec. 43, B 30, T&P Sur, Tsp. 1-N
JONES COUNTY			
Phillips Petroleum Company	Trent	10	Sec. 36, B 19, T&P Survey
MIDLAND COUNTY			
Gulf Pipe Line Company	Midland	30	Sec. 41, B 38, T&P Sur, Tsp. 1-S
REAGAN COUNTY			
Big Lake Oil Company	Texon	40	Sec. 1, B 2, University Lands
Reagan County Pur. Company	Kemper	15	Sec. 11, B 11, University Lands
Texon Oil & Land Company	Santa Rita	30	Sec. 36, B 9, University Lands
UPTON COUNTY			
Humble Pipe Line Company	McCamey	50	Sec. 65, B 35, H&TC Survey
Marland Pipe Line Company	McCamey	40(*)	Sec. 66, B 35, H&TC Survey
Roxana Petroleum Corporation	McCamey	10	Sec. 12, T. C. Railroad Survey
Southern Pipe Line Company	McCamey	72	Sec. 65, B 35, H&TC Survey
Texas Pipe Line Company	Crossett	15	Sec. 66, B 35, H&TC Survey
WINKLER COUNTY			
Southern Pipe Line Company	Wickett	30	Sec. 20, B "F", GMMB&A Sur.

(*)—Leased to Humble.

has set aside a section of land at Wickett for storage tanks, and same will be built when the active development of the field gets under way.

Surplus storage room at Big Lake and Kemper, Reagan County, will probably be drawn on by Humble Pipe Line Company in taking care of its heavy pipe line runs from the Church & Fields area during the next several months, Humble Oil and Refining Company's 10,000 barrel daily capacity skimming plant at McCamey will also be in operation about the time the crest of the flood from the Church & Fields area is reached.

Tank car rack facilities for loading crude are available in the McCamey district, Upton County, to handle a large volume of crude daily, provided prompt switching and transportation service is given by the Orient Railroad. The five racks at and near McCamey can accommodate 127 tank cars. However, freight congestion at McCamey has retarded crude movement from this area in recent months. McCamey is the railroad shipping point for crude produced in Crane, Upton and Pecos Counties, with the exception of the crude moved via an 8-inch carrier by Gulf from the Gulf-McElroy and Church & Fields areas to Midland. Gulf is only handling its own production in this line.

Oklahoma Proposal Would Have Oil Industry Create School Endowment Fund

Tulsa.—With two unsuccessful efforts to increase taxes on crude oil in Oklahoma just past, another is coming up. Campbell Russell, perennial seeker of higher taxes with the oil industry his chief object, is behind this third effort. His latest move is an attempt to initiate another bill as a constitutional amendment to add two per cent as a severance tax to provide for the endowment of common schools.

The initiative petition has been filed with the Secretary of State at Oklahoma City. Its proponents have 90 days from that time to get signatures of 60,000 voters, a number sufficient to bring the measure before the people of Oklahoma at a coming election.

Commenting on the nature of the measure, this is taken from the March 30 issue of the bulletin of the Mid-Continent Oil & Gas Association:

Sets Precedent

"This is the first instance that has been brought to light in this State or any other where it has been attempted to levy a tax to create an endowment fund. The function of a tax is to provide revenue for current support of the government each fiscal year. Able constitutional lawyers have expressed the opinion that the proposed bill in providing for the impounding of the proceeds does not levy a tax but confiscates private property for public use in violation of the fourteenth amendment to the Constitution of the United States. It is argued that if the property of the oil producers can be thus confiscated to endow the common schools the property of the railroads may be taken to endow the higher institutions of learning and the property of the farmers may be taken to endow other departments of government and so on ad infinitum."

Following is a copy of the bill:

Be It Enacted by the People of the State of Oklahoma:

Section 1. In addition to any and all other taxes now or hereafter legally levied, there is hereby levied a Severance Tax upon the following natural resources, viz:

Upon all natural gas and upon crude petroleum or other mineral oil, two per centum (2 per cent) of the value thereof; and upon Ores bearing lead, zinc, jack, gold, silver or copper and upon asphalt, one per centum (1 per cent) of the value thereof.

Such tax shall be due and payable upon the market value of any and all such products when and where the same are separated from their natural bed or taken from the original source of supply, brought to the surface and reduced to possession, and shall be paid by the party or parties, having the right to market such products.

Such tax is levied for the benefit of the common school fund of this State and shall be collected by the state auditor in the manner now or hereafter provided by law for the collection of gross production taxes upon such products, and the state auditor shall deposit such tax as collected with the State treasurer; same to become and remain a part of the permanent common school fund of this State, to be invested as by law provided; all interest collected thereon to be used for the maintenance of the common schools of this State as provided in section 3 article 11 of the State constitution:

"Provided that the legislature and the governor may, by bill or joint resolution as other laws are enacted, provide for the current distribution of not to exceed one-half of such tax thereafter collected for any designated year or years."

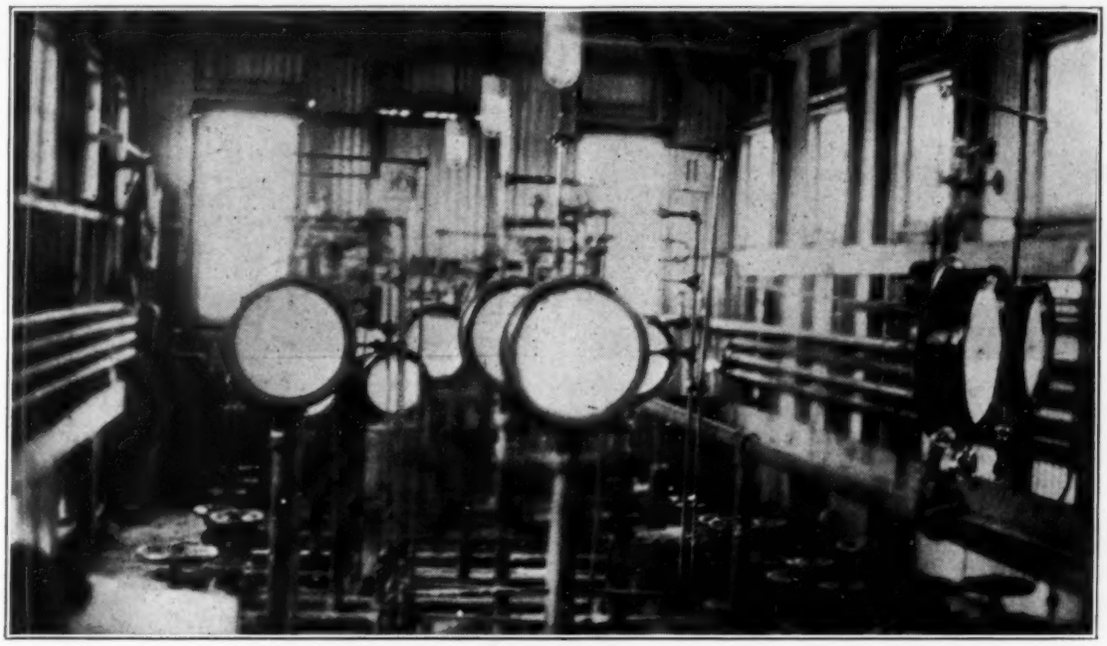
Oklahoma Oil Producers will meet April 8 in the headquarters of the Mid-Continent Oil & Gas Association here to take action in an educational campaign to defeat the initiative bill filed with the secretary of state for a creation of a severance tax for the creation of a permanent school fund. The original bill has been amended to cover a two per cent severance on oil and gas and one per cent on lead, zinc and asphalt.

Get 2700 Acre Lease in Union Avenue Area

Los Angeles.—Pacific-Eastern Production Company, a corporation organized with Hoyt S. Gale as president, has been assigned leases comprising 2700 acres in the Union Avenue district, just south of Bakersfield, California.

Leases covering smaller tracts have also been acquired by the company. This makes a total of approximately 12,000 acres owned by the organization, including nine other Kern County leases assigned to Pacific-Eastern by E. C. Bothwell.

A. E. Wallace has been made vice-president and manager of the land department of the Pacific-Eastern Production Company.



CONTROL ROOM OF THE PURE OIL COMPANY'S AIR-GAS LIFT PLANT, EQUIPPED WITH AUTOMATIC RECORDER CONTROL INSTRUMENTS, ONE TO EACH WELL, WHICH CONTROL THE VOLUME OF AIR OR GAS ENTERING EACH WELL OPERATED.

Pure Uses Central Control in Lift Work

By GEORGE REID
Staff Representative

IN the practice of installing compression plants for flowing oil wells in the Seminole area policies of the operating companies differ. Some companies are using large centrally located plants to furnish pressure for their flowing activities, while others are installing several small plants, each one handling a few wells. Often the installation is connected for the purpose of compressing rich gas or residue gas, while others operate in the compression of air. Some plants are equipped in such a mannear that the plant may either compress air or gas in the machines for the artificial flow method incorporated in the air-gas lift.

Among the producing organizations following the policy of the erection of large centrally located air-gas compression plants for the purpose of supplying air or gas under pressure to a large number of wells, is the Pure Oil Company. This company is operating the only 160 acre lease in the Seminole field proper, known as the Strothers farm, upon which it has 16 wells producing oil at this time, with an average yield of from 25,000 to 30,000 barrels daily. With the abandonment of restrictions as to storage facilities, etc., there is no doubt but that a greater volume of oil could be produced from this property.

The compression installations comprising the air-gas lift system of this company are grouped into one central plant which is probably the largest in the field. This plant may be said to be constructed in units. Six units are included in the present lay out. For convenience sake each unit will be termed as a plant. One of the plants is a steam-driven installation and consists of five Ingersoll-Rand type 10 steam drive compressors, size 10 x 5½ x 14, and one Laidlow compressor, are operating on gas from the producing wells. This plant is not only a gas-lift installation but is also a complete compression gasoline plant. The green gas handled by the compressors is stripped of its gasoline after the usual compression plant practice, and the residue gas is circulated through the wells being flowed artificially.

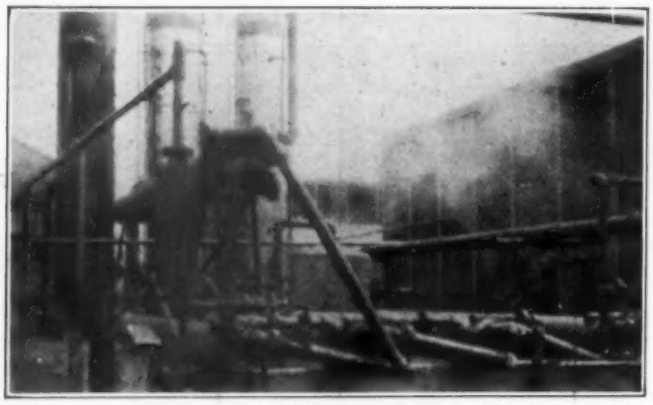
Breakout Plant

When new wells are first put on the gas-lift system it sometimes requires high pressures to cause the flow to start or the well to "break-out," always the well requires more pressure applied at the start than it does to effect the continuation of the flow once it has begun flowing. For this work the Pure Oil Company has installed a separate small plant, or unit, which is termed the break-out or high pressure plant. This plant consists of two Worthington compressors, formerly 10 by 11 by 12 inches which have been bushed down from 10 inch to 3 inches for high pressure.

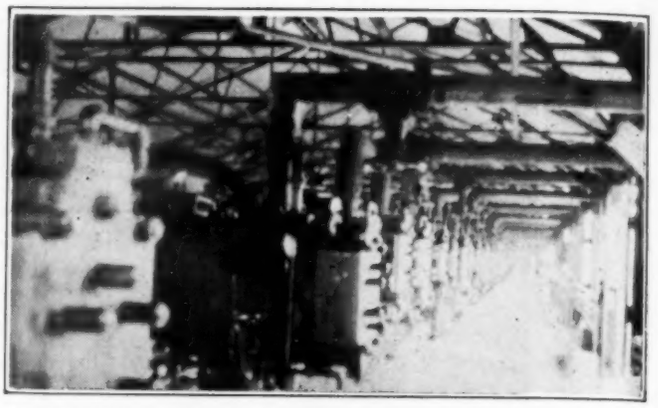
A third unit of this large installation is, like the first plant mentioned, used for the compression of natural gas. This plant consists of ten 165 horsepower Bessemer compressors, size 16 by 20—14¼ by 20, low stage and 6¾ by 29, high stage. Three of the machines are handling gas at low pressure which is passed through a Newton absorption plant. Residue gas from this plant is conducted to the field and distributed to the various operations requiring gas for fuel. The other seven compressors are employed in the compression of gas for gas lift operations. Gasoline is also extracted from this compression plant section. With a large number of compressors operating by gas engine drive, and with drilling operations also requiring residue gas for fuel purposes, the installation of the absorption plant, in this instance, was essential to economy of oil producction, both in actual drilling and in flowing by gas lift methods.

Air Plant

The fourth unit of the Pure Oil compression plant installation is utilized for the compression of air. The machine equipment of this plant consists of five Ingersoll-Rand two stage Imperial type 12x14 low and 5½x14—high stage compressors. These machines are belt driven by three Ingersoll-Rand and two Bessemer gas engines. The second air compression installation, comprising the fifth plant on this cen-



GASOLINE PLANT INSTALLED AS AN AID TO THE PRODUCING DEPARTMENT BY STRIPPING THE GAS OF ITS GASOLINE TO PROVIDE DRY GAS FOR USE IN DRILLING AND IN GAS ENGINE DRIVEN COMPRESSORS USED IN LIFT WORK



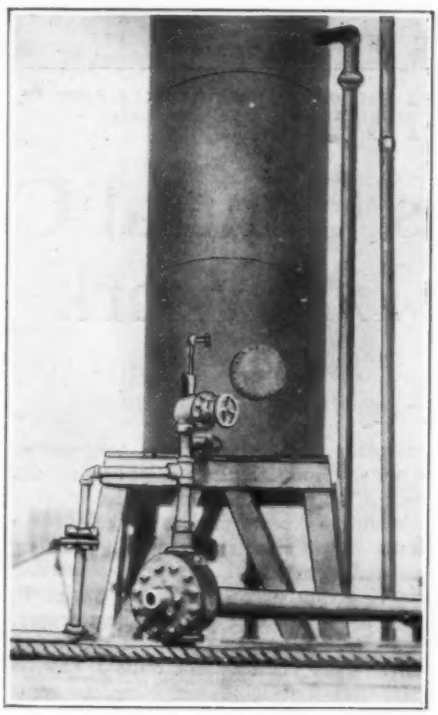
INTERIOR OF ONE OF THE SIX UNITS COMPRISING THE LARGE AIR-GAS LIFT PLANT. THIS UNIT CONSISTS OF TEN COMPRESSORS AND IS A COMPLETE GASOLINE PLANT IN ADDITION TO ITS SERVICE IN THE GAS LIFT WORK

tral site, consists of four Ingersoll-Rand type XRB, 9½ by 4 by 10 compressors, belt driven by four Waukesha four-cylinder, four-cycle, 125 horsepower motors. These two air compression plants are employed to flow wells on the air lift, while the two gas compression plants previously described are used for the compression of gas entirely. Along these lines it may be stated here that the compression plants installed for operation on gas are both extracting gasoline, and the gasoline production of the entire plant, including the production from the Newton absorption plant, is said to amount to one gallon for each barrel of crude oil produced from the lease in question. Thus, where the 16 wells on production have been yielding from 25,000 to 30,000 barrels of oil daily, gasoline production becomes an important item in itself.

A sixth compression plant is included in the Pure's schedule for gas-air lift operations and consists of three Chicago-Pneumatic machines belt driven by three 100 horsepower Waukesha motors. This unit is used for the purpose of flowing three wells on the southern extremity of the property.

Double Manifolds

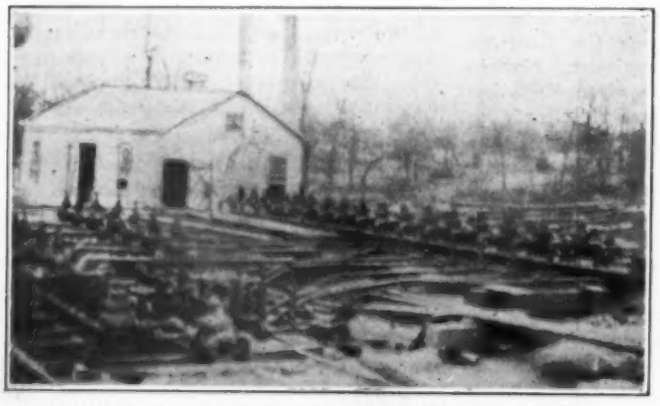
At the time of the writer's visit to this installation the company was flowing 10 wells by the gas lift system and only one well was operating on air. These figures are subject to periodic change, which is governed by the volume supply of natural gas for flowing purposes. Since such changes are occasionally necessary the entire air-gas lift installation is equipped in such a manner that compressors working on air may be used when needed, or shut down and the wells flowed by the injection of compressed gas when sufficient gas is available. This practice calls for double manifolding at the plant, but does not entail the laying of separate lead lines to the wells.



CONNECTIONS AT THE WELL, SHOWING METHOD OF PLACING SEPARATORS AS CLOSE AS POSSIBLE TO THE FLOWING WELL.

Each compression plant, whether operating on gas or air, discharges into a header line, which then conducts the air or gas to the control manifold. Two separate manifolds of this type are required. All of the work of metering and control of volume on the Pure plant is performed in one centrally located control house. The manifolds installed for handling air or gas and for the purpose of controlling its direction of flow into the areas in which it is required are built just outside of the control house. The purpose of this installation is to control from one site, the volume of gas or air which is injected into any one well. The manifolds are so laid out that either air or gas under pressure may be taken through the control room and directed to the specific well or wells where required without interfering with the control of flow of air or gas, as the case may be, to any or all of the other wells. For example well No. 6 could be flowing under air pressure, while the adjacent well, No. 7, may be producing under the gas lift, each with the volume accurately controlled and with the same flexibility that could be secured by the installation of a separate plant for each well.

(Continued on page 88)



ARRANGEMENT OF AIR AND GAS MANIFOLDS FOR CONTROL OF DISTRIBUTION TO WELLS.

HOOK-UP OF INGERSOLL-RAND COMPRESSOR, BELT DRIVEN BY WAUKESHA MOTOR

Corrosion Promises Real Problem At Seminole

Early studies of situation show that water lifted with oil is highly corrosive, as damaged pipes have already shown

By GEORGE REID
Staff Representative

AMONG the numerous problems with which the oil producing companies operating in the Seminole area must contend is that of combating the corrosiveness of the waters produced along with the oil. The producing territory at Seminole is not yet old enough to feel the almost certain hazardous effects of this ever present enemy of the oil industry, but the fact that the problem of corrosion of tubing, casing, and all metal parts must be combatted has been definitely proven by the appearance of corroded pipes, etc., in a number of producing wells.

Just how rapid will be the deterioration of metal parts in the field has not yet been definitely determined. The destruction of metal equipment, however, in oil and gas producing areas causes waste of resources and financial losses that are of major importance to the industry. The magnitude of such destruction must fall upon such items as iron and steel pipe, tubing, casing, pump valves, sucker rods, plungers, working barrels, balls and seats of valves, screen pipe, as well as lead lines, and other surface and underground equipment.

In a field such as Seminole where the air lift is extensively applied for the artificial production or flowing of wells, there is a certain amount of water inadvertently produced with each barrel of oil. The oil production in this district has been repeatedly analyzed for its sulphur content and this has been found to range around one half of one per cent and less. Even though this sulphur may be in a form capable of causing the corrosion of metal parts in the oil well, it is also known and has been definitely proven by analysis that the average water production from the field is also of a corrosive nature. The action of the corrosive reagents in the water as found in this field are well known since the producing fraternity has experienced like corrosion elsewhere from waters similar in chemical analysis.

Water Analysis

One of the first investigations carried on by the Bureau of Mines upon the establishment of its field office in the Seminole pool proper, was the determination of the possibility or actual presence of waters of a corrosive nature. Fifteen samples of waters from various parts of the field were gathered and analyzed for the determination of those chemical substances in solution which would be conducive to the deterioration and destruction of metal parts. This work was done in order that the oil producing companies might be warned early of the condition as it existed, Analysis of the waters produced showed positively that the liquid bore those chemicals which classified it as being of secondary salinity—that is, salinity such as is caused by the solution of calcium and magnesium chlorides. The presence of these constituents renders such waters permanently hard. Corrosive waters are usually characterized by primary salinity, and secondary salinity.

After the determination of the corrosiveness of the water the bureau office at Seminole, with Mr. C. R. (Cliff) Swartz in charge, distributed copies of the analysis of the waters and a pamphlet dealing with the problem of corrosion to all of the operators in the field. In this manner the producers of the district were aided or forewarned with the knowledge of the conditions and with the problem with which they would have to deal. With the discovery that in a few wells the corrosion was of sufficient rapidity to produce a marked corroded effect upon tubing which had been in service in a well but a few weeks, it behooved those most interested in economy of production and in preservation of equipment to begin early in the work of combating this important problem.

C. R. (CLIFF) SWARTZ
IN CHARGE OF THE WORK OF THE BUREAU OF MINES AT ITS FIELD OFFICE AT SEMINOLE, WHERE THE BUREAU IS CONDUCTING MANY VALUABLE AND IMPORTANT INVESTIGATIONS OF PRODUCING METHODS.

The following is a representative analysis of the water found with the oil production in the Seminole area:

Water Sample Seminole Field
Killingsworth lease.
Well 1A, Wilcox sand 4130-4145 feet.
Chemical Analysis

	Parts Per Million	Reacting value in percentages (Palmer)
Calcium	8,414	7.68
Magnesium	1,743	2.62
Sodium	49,867	39.70
Carbonate		
Bicarbonate .	55	.02
Sulphate	542	.21
Chloride	96,450	49.77
Total solids ..	157,071	100%
Specific gravity	1.113	

John M. Devine
1-13-27

Pamphlets on Corrosion

Along these lines it may be well to call attention to the work of the Bureau of Mines which is available and which deals with the problem of corrosion in oil and gas fields from water and other substances. Bulletin 233 "Protection of Oil and Gas Field Equipment Against Corrosion," by R. Van A. Mills, is probably one of the most valuable and most comprehensive studies of this problem ever compiled and published. In this work Mr. Mills takes up the discussion of corrosion of oil field equipment from all of its angles and in addition to explaining the various theories of corrosion and their applicability, the actual experiences of many producing territories are covered in detail. The problem of combating corrosion to oil field equipment is handled from both a scientific and practical standpoint with a great deal of stress laid upon the methods of combating corrosion as have been applied by producers of petroleum. The work is certain to be of value to the industry.

In the matter of corrosive waters the

writer has extracted the following excerpts from the bulletin, which explain the method of determining the possible corrosive action of waters in general and which shows definitely what may be expected of waters of certain general chemical analysis.

"Primary salinity is the property imparted to a water by alkali (sodium and potassium) salts of the strong (hydrochloric and sulphuric) acids. In oil and gas well waters the primary salinity is usually due entirely to sodium chloride (common salt), though some times it is partly due to sodium sulphate.

"Secondary salinity is the property imparted to a water by the alkali-earth (calcium and magnesium) salts of the strong acids. In oil and gas well waters the secondary salinity is usually due to calcium chloride and magnesium chloride, though some waters contain sulphates of calcium and magnesium. Secondary salinity is sometimes called permanent hardness.

"Primary alkalinity is the property imparted to a water by alkali salts of the weak acids. In oil and gas well waters primary alkalinity is usually due to sodium carbonate and bicarbonate.

"Secondary alkalinity is the property to a water by the alkali-earth salts of the weak acids. In oil and gas well waters secondary alkalinity is usually due to calcium and magnesium carbonates and bicarbonates. Secondary alkalinity is sometimes called temporary hardness.

"Hardness is the quality that makes a water require an excessive amount of soap to form a lather. This quality is imparted by calcium and magnesium, and is measured by the amount of calcium and magnesium, in parts per million, expressed in terms of calcium carbonate. Total hardness is equivalent to secondary salinity plus secondary alkalinity.

Corrosive waters are characterized by secondary salinity—that is, salinity such as is caused by the solution of calcium and magneium chlorides; whereas noncorrosive waters are characterized by primary alkalinity—that is, alkalinity such as is caused by the solution of sodium carbonate. The primary alkalinity of a water tends to prevent corrosion, but primary alkaline waters charged with hydrogen sulphide gas may be corrosive. The predominating properties of reaction of corrosive waters are evidently primary salinity, and secondary salinity"

A few of the oil producing companies operating in the Seminole area have already begun the work of investigation corrosion of their metal equipment and are applying means of combating the inroads of this hazard. The use of corrosion resisting metals and alloys, the employment of galvanized tubing, alkalin muds or chemical neutralization, are among the many methods advanced by engineers in the field. Surface equipment may be protected by painting, dipping and substituting cast iron in lead lines for those of steel and iron. The work has just begun, however, and at this early date it is not possible to secure data regarding the success of those operators who are engaged in fighting the inroads of corrosion in this territory.

Seminole Water Intrusion

(Continued from page 25)

the subsurface structure, it might be supposed that some relation between the two would be found. There is scarcely any apparent consistent relation, however, except on the extreme northeast edge, where the water line follows the minus 3200-foot contour line after a fashion. The water "finger" which extends from section 23 north into section 14 seems to cut across the structure.

It would seem that there is little, if any relation between the subsurface structure and appearance of water in the several wells.

It is also interesting to note the apparent lack of any sort of relationship between the action of a group of wells, as regards water output. Take, for instance, the lower tier of wells in north half of the northwest quarter of section 24-9-6. The far west well is making 40 per cent water, the well one location to the east is making only 1¼ per cent water, the next one east 20 per cent and the next only ¾ per cent. The adjacent well which is in the northeast quarter of the same section is making 10 per cent water. All of these wells, with the exception of the latter, have just about the same apparent location on the structure. The latter well seems to be just a little higher on the structure, if anything.

Effect on Production

No definite statement can be made as the degree to which the water is checking oil production in any given location. Whereas one well making water in increasing quantities consistently increased its total output by an amount just about equal to the water, another well decreased its oil output by an amount just about equal to the water coming in.

In a general way, however, it might be said that where water is showing to any material extent, oil production is falling off.

The examination of the production curves of severa typical wells making water shows that when the decline set in the falling off did not follow the usual hyperbolic type of decline curve but dropped off rather suddenly for a time just after the peak was passed. After the sudden drop the curve conformed again to some degree to the hyperbola.

One possible suggestion might be made from this map which shows the extent of water intrusion over a comparatively short period and also the type of decline curve which the wells making water are showing, and that is that the field has a more imminent water problem than was for a time supposed and the production decline for the field will be more or less sharp.

Gas-Air Lift

It is the opinion of some that the use of the gas-air lift for flowing the wells in the field has hastened water intrusion. It may be true that the fast movement of the oil through the sand, such as has been brought about by this means of producing the wells, has hastened and in a manner somewhat distorted the natural movement of the water.

On the other hand, it is the opinion of some that the gas-air lift has acted to retard water intrusion by the slight back pressure it puts on the sand body, and that the presence of water at this date is in about the ratio as if the field were produced by the slower methods.

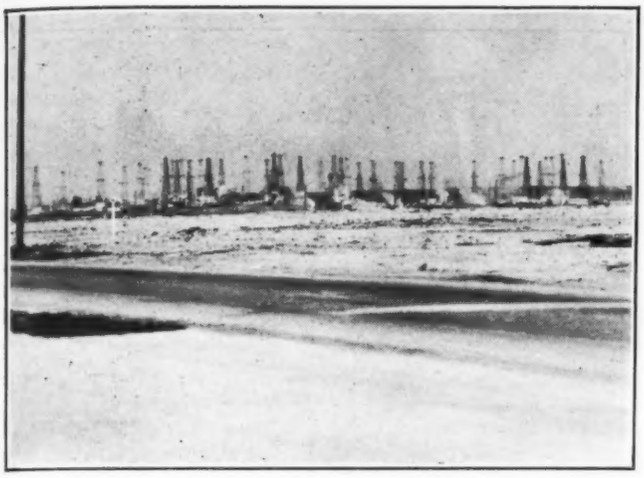
The water situation in the Seminole City field is just now admittedly something hard to see through by the operators. Not a little practical concern is being given to it by them.

Skelly Earnings for 1926 Show Nice Increase

Tulsa, Okla.—The financial condition of the Skelly Oil Company for 1926 is summed up in these words by W. G. Skelly, the president, in the seventh annual report:

"As in 1925, so again in 1926, the earnings of your company reached a new high mark. Net earnings in 1926 after operating and administrative expenses, taxes, etc., including reserve for federal income tax, but before interest, depletion, depreciation and other capital extinguishments, were $10,855,269.90, from which $5,029,878.28 was deducted for interest, depletion, depreciation and other extinguishments and $134,046.01 for minority stockholders in subsidiary companies, leaving $5,091,345.61 available finally for dividends and surplus, equal to $5.56 per share (par value $35) on the average number (1,022,633) of shares outstanding during the year, compared with $3,755,715.51 in 1925, or $4.43 per share on the average number (846,240) of shares outstanding in that year. These figures reflect an increase of more than 25 per cent in the rate per share of income available for dividends and surplus in 1926 compared with 1925."

J. Edgar Pew, vice-president of the Sun Oil Company, has returned to headquarters at Dallas after spending several months inspecting the company's producing properties in Venezuela.



SEAL BEACH FIELD IN CALIFORNIA WHICH THREATENS THE STATE'S MARKET WITH A DOWNWARD REVISION IN CRUDE PRICES. THE CAMERA WAS POINTED SOUTHEAST.

LOOKING NORTHWEST DOWN THE MARLAND OIL COMPANY'S ROAD AT THE BOOMING SECTION OF SEAL BEACH. ONLY A SMALL PORTION OF THE SURFACE IS HARD ENOUGH TO PERMIT HAULING.

California Cut Will Not Stop Field Development

Except in districts producing undesirable grades, work will continue; Seal Beach peak to be reached in 60 days

By WM. V. GROSS
Staff Representative

Los Angeles.—While the Standard Oil Company of California's downward revision of crude prices April 1 is expected to have a curtailing effect on fields producing the less desirable gravities of oil and upon those in the State which consist in the main of semi-proven acreage, the flush area now being played will not be retarded seriously in development. Neither will those areas producing the type of oil that allows a large margin between the purchase value at the well and the ultimate value per barrel.

The Standard's drastic cut, ranging from one cent per barrel on the heaviest refinable crudes, to $1.36 per barrel on the lightest grade of 42 degrees gravity oil, has not thrown a damper on exploitations of California's greatest over-production menace—namely, Seal Beach. The idea that the lowered schedule in crude will provide some of the majors with money to erect sufficient storage to take care of the field's flush oil seems to have had an accelerating rather than retarding effect upon those participating in the boom. The general attitude among the independents seems to be that it would simply break the majors' hearts to stand by and see all of Seal Beach's flush drunk up by the sea gulls and marsh hens when it could be bought so cheaply would they but sign a few contracts. Perhaps the smaller operators are right in not worrying about a market for their oil, now that the price is "right" and justifies the big boys in providing storage.

Wildcatter's Future

Unnecessarily, a great deal of thought will be put into prognostications on the possible effects of the downward revision of the crude price structure on this year's activities of the wildcatter. It would be almost sacrilege against precedent, to say nothing of unethical misdemeanors, were he to allow a little thing like a cut in crude to influence his game. Any wildcatter who has the "bug," be he of the one-string-of-posthole-tools variety or the kind which explores a dozen deep sands at once, is going to wildcat as long as geologists and realtors can point out virgin structures. This is why, despite the fact that California has had about 58,000 barrels per day of shut-in production during the past year, town lot propositions such as Los Cerritos, Huntington Beach and Seal Beach have been precipitated. Potrero would have been, but the domestic consumption of salt water in Los Angeles Basin had not reached such figures yet as to justify precipitating a Potrero boom.

Peak to Come Soon

April 2 the greatest factor in the California crude situation was Seal Beach, which is producing 30,475 barrels of oil per day from 24 wells. One hundred forty-seven other drilling projects under way in the field are expected to give Seal Beach its peak within 60 days. After that has been reached, it is expected that the production from the new townlot area will experience a rapid decline. The sands are of very limited thickness and wells there are too thickly spotted to be commensurate with any policy of crude conservation. Some idea of how the field is being drilled may be gotten from a study of the last seven weeks' production there:

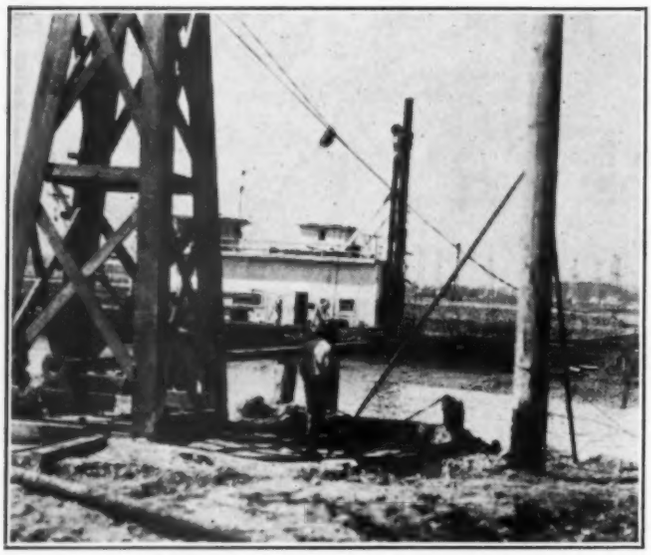
February 18	15,400
February 25	20,300
March 4	25,400
March 12	28,000
March 19	32,000
March 26	*26,200
April 2	30,475

(*On the week ending March 26, a number of wells were taken off production in the field for the purpose of recementing or deepening to the second sand.)

That the above tendency to increase may be reasonably expected to continue for at least two months, barring water encroachment or similar catastrophes, is pointed out by the fact that there are 88 wells actively drilling in Seal Beach. Of these, 25 spudded in during the week ending April 2, stripping the total number of locations down 21. Locations made without definite intention to drill are few in Seal Beach.

Week's Flush 6300 Barrels

A number of wells are due for com-



SPANNING THE CREEK THAT RUNS THROUGH SEAL BEACH FIELD WITH A LINE OF SIX-INCH. DUE TO THE SOFT, BOGGY NATURE OF THE GROUND, THE SUSPENSION BRIDGE METHOD IS THE MOST SATISFACTORY. THE POSSIBLE ADAPTABILITY OF SUCH A METHOD TO MARSH-LAND FIELDS ELSEWHERE IS OBVIOUS.

"IT'S EASIER ON SHOE LEATHER TO ROW TO WORK IN THE NEW SEAL BEACH FIELD OF CALIFORNIA THAN IT IS TO WADE THROUGH THE MUD FLATS," IS THE SUGGESTED TITLE FOR THIS PICTURE.

pletion before ten days. Among these, the Pan-American's (Petroleum Securities Company) has its Naples 2, Naples 4 and Naples 5 in the oil sand, with only a matter of running pipe and cementing standing in the way of their completion. On its San Gabriel Improvement Company property, the Standard Oil Company of California has two wells standing cemented which probably will be drilled in during the week.

During the past week, two important wells, having a combined initial of 6300 barrels, approximately, were brought in. These two wells, which have held the spotlight of interest for the past three weeks, were the Pan American's Naples 3 and Paul Getty's Cleaver 1.

Getty's Cleaver 1, which is less than 150 feet removed from the Pan's Naples 1, a 2500 barrel well, was put on production at 4725 feet for about 3800 barrels of 26.7 gravity oil, according to field reports. Two days later, April second, the well was producing 5100 barrels of 28 gravity oil cutting two per cent, according to Getty headquarters. This is unusual, considering the small amount of space between the Pan's Naples 1 and Getty's Cleaver 1. Pipe figures on the well are approximate, as the operator is not disposed to reveal anything definite with regard to the thickness of the sand he has penetrated. Fifteen-and-one-half-inch casing was cemented at 615 feet; 8¼-inch casing was landed at 4682 feet and three-inch tubing run in to about 4500 feet.

Petroleum Securities Company's Naples 3 was brought in for about 2500 barrels of 28.2 degrees gravity oil from about 4722 feet. Naples 3 is cutting 2 per cent. Casing record shows 15½-inch cemented at 715 feet; 8⅝ cemented at 4700 feet.

Disposition of Yield

Field rumors are to the effect that the Julian Petroleum Corporation, now the California-Eastern, and the General Petroleum Corporation are laying lines into Seal Beach. Richfield also is extending its line from the main section of Seal Beach, the Marland property, to the Alamitos Heights district of the field. By this time the Pan-American's line should be completed and running oil. In addition to the above, the Industrial Fuel Supply Company is reported to be contemplating laying a line into the field.

J. Paul Getty is getting rid of his Seal Beach production by having leased more than 1000 barrels of storage facilities belonging to the White Star Refining Company at Watson, export terminal. Getty will store his oil until he can get a better price unless he is forced to sell beforehand. Oil from Getty's Cleaver 1 is being taken to the Watson refinery in trucks, 20 of them being employed.

A resume of field activities at Seal Beach during the week ending April 2, follows:

Company	Drlg	Rigs	Location	Producers	Total Operations	Prod.
Ahlburg Gas Company	..	..	1	..	1	....
Alamitos Oil Company	..	..	1	..	1	....
Associated	5	1	2	4	12	2,765
Bankline Oil Company	1	1	..	..	2	....
California American Oil Company	1	..	..	..	1	....
California-Eastern	2	3	..	..	5	....
California Petroleum Corporation	11	..	..	..	11	....
Coastal	..	1	..	..	1	....
Cochran	..	..	1	..	1	....
Craburn Oil Company	2	..	..	..	2	....
Dill & Comstock	..	1	1	..	2	....
F. Erwing	1	..	1	..	2	....
Dominguez Extension Oil Company	..	1	..	..	1	....
Fleet Petroleum Company	..	1	..	..	1	....
General Petroleum Corporation	8	1	..	..	9	....
George Getty	6	..	2	..	8	....
Paul Getty	4	1	1	1	7	3,800
Hart & Company	1	..	..	..	1	....
Hughes & Richmond	..	1	..	..	1	....
Italo-American Pet. Corporation	..	1	..	..	1	....
A. Johnson	..	1	..	..	1	....
Marland Oil Company	8	14	2	8	32	10,090
W. E. McCaslin	..	1	..	..	1	....
McCoy, Deed & Cathers	1	..	1	..	2	....
E. J. Miley	2	..	..	..	2	....
Pet. Securities or Pan-American	15	5	3	2	25	5,000
Rainbow Petroleum Company	1	..	..	..	1	....
Richfield	2	..	..	..	2	....
Fred Roberts	..	1	..	..	1	....
Robertson & Company	1	..	..	..	1	....
South Basin Oil Company	1	..	..	..	1	....
Superior Oil Company	5	..	..	..	5	....
Standard Oil Company	3	..	..	9	11	8,829
Union Petroleum & Drilling Co.	..	..	1	..	1	....
Universal Construction Oil Company	4	..	..	..	4	....
F. Walker	1	1	1	..	3	....
Waklin & Peacock	1	..	..	..	1	....
J. E. Wheeler	..	1	..	..	1	....
H. L. Whiston	..	..	1	..	1	....
White Eagle Petroleum Company	1	2	2	..	5	....
Total	88	38	21	24	171	30.475

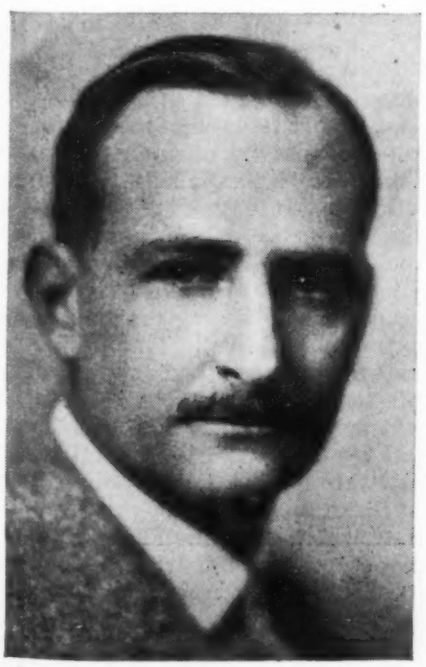
PERSONAL MENTION-MEN YOU KNOW

Harry Potts, general field representative for Kerotest Manufacturing Company, Pittsburgh, was back in the Gulf Coast country last week, lining up business and visiting friends. He came to Houston from Los Angeles where he has been spending some time after returning from a six months trip to European oil fields. About the greatest trouble to a trip of that kind, he says, is that he missed the world's series games. To prove that he is as interested in baseball as ever he was hobnobbing around Houston with O. J. "Donie" Bush, manager of the Pittsburgh club, who had his men here for a schedule against the Houston Buffaloes. Harry was naming all the players as they passed, relating the hobby of each and his batting average. While in Houston he spent most of his time with Frank Carrothers, manager of Norvell-Wilder's office here, which company handles Kerotest products.

W. H. Winckler, formerly in the engineering department of the Gulf at San Antonio, has recently gone with Vacuum Oil Company engineering department, Houston.

F. H. Chapman of the Turkish Petroleum Company has been in California fields for some time, studying drilling and production. methods.

J. F. Chaillet, formerly with the Venezuela Oil Concessions, Maracaibo, has recently gone with the Astra Romana Petroleum Company. He is now in California, preparatory to leaving for Roumania.



M. E. LOMBARDI

Texan Succeeds Bradford Pioneer in California

Los Angeles—Directors of the Standard Oil Company of California, March 30, elected M. E. Lombardi, assistant general manager of the producing department of the company, a director, succeeding F. H. Hillman, vice president and director, who is retiring from active service. The board adopted a resolution accepting Mr. Hillman's resignation with regret and expressing deepest appreciation for his 48 years of splendid service with the organization.

Mr. Lombardi came to the Standard at the consolidation with the Pacific Oil Company last year. He was vice president and general manager of the Pacific Oil Company.

He was born in Houston, Texas, in 1878, and was graduated from Yale in 1900, after which he took a special course in mining engineering in the University of California. Thereafter he joined, as an engineer and geologist, the Kern Trading and Oil Company, a subsidiary of the Southern Pacific, continuing with that organization until the formation of the Pacific Oil Company, which was organized to operate the oil properties of the Southern Pacific Company in 1921. He was at that time made assistant general manager. Mr. Lombardi is president of the Associated Pipe Line Company.

In the retirement of Mr. Hillman the oil industry of California loses one of its most distinguished representatives. His career in the oil industry began as a messenger boy of the United Pipe Lines in Bradford, Pa., in 1879. Since that time he has never been outside of the industry. He came to California in January of 1911, to take charge of the oil production of the Standard Oil Company (California).

The span of his service covers the period of the greatest development of the California oil industry and of the Standard Oil Company. When Mr. Hillman came to California the company's production of crude oil amounted to 6000 barrels per day. Now, at the moment of his retirement, the total production of the company is 176,000 barrels per day.

There is probably no California oil man better known throughout the industry than Mr. Hillman.

The resolution of appreciation adopted by the board of directors is to be engrossed and presented to Mr. Hillman.

W. A. Davis has recently been placed in charge of the B. & A. Specialty Company office at Houston.

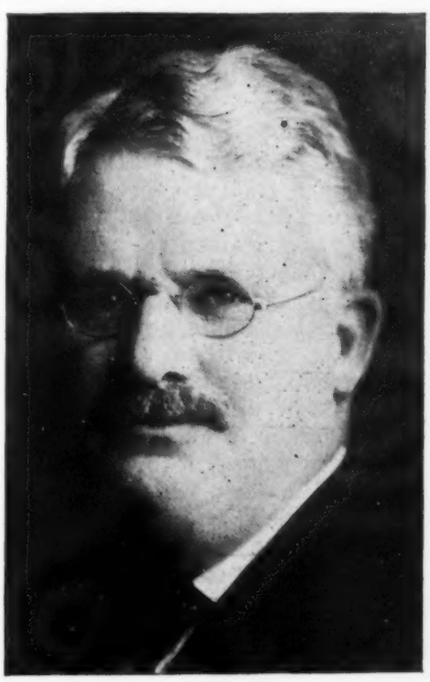
Edgar Wilson of the Reed Roller Bit Company, Houston, who has spent the past seven months in a tour around the world in the interest of company business, was due to arrive in San Francisco this week. He left Houston in August, 1926, for London, traveled through the Continental countries, and thence to the Far East, visiting practically every oil producing section of importance in the world.

J. Bierman of the Astra Romana Petroleum Company in Roumania, who has been spending several months in California for the purpose of studying production methods there, will return to Roumania in May.

L. H. Thawley has joined the Peerless Oil & Gas Company in the land department office at Tulsa. Thawley formerly was scout for the Roxana Petroleum Corporation in the Okmulgee territory.

C. R. McCullom, chief geologist for the Union Oil Company of California, spent part of the past week in Houston, and left Friday night to return to Los Angeles, via Dallas and other North Texas points.

James W. Bradbury, assistant to the general egent of the Mexican Gulf Oil Company, Tampico, is spending his vacation in Houston, where he has a large number of friends.



F. H. HILLMAN

CULLED FROM THE NEWS

By Kent Ridley

President Coolidge's order again putting the naval oil reserve lands under the direction of the navy department was probably made with the prayerful hope that the secretary of the navy will never Fall.

* * *

Between his accident, the libel suit and the grocery stores, Henry Ford is taking up more space in the newspapers than he is on the road.

* * *

Joseph Jensen was among those notably not at the geologists convention at Tulsa, and it has been said that maybe the cause is that he has considerable geology on his hands in California, about which the prophetic Whittier wrote some years ago: "Alas for him who never sees the stars shine through his *Cypress* trees; who hopeless lays his dead away nor looks to see the breaking day across the mournful marbles play."

* * *

Oklahoma has a statute which prevents piping of natural gas outside of the State. If the authorities there could be controlled by influences outside of their State just at this time, an emergency amendment would be made to that law making it include all hydro-carbon compounds and products. That possibly would control Seminole.

* * *

Remembering how mad Mr. Nicholas was when he saw a movie made by one of the Standard companies sponsored by the United States Bureau of Mines in a showing, we can expect him to protest to Washington over mention of Socony Hill in the dispatches from China.

* * *

A history of religions says the "Jainas" (Hindu sect) appeared on the earth 100,000,000,000,000 "palya" ago. A "palya" is the length of time required to empty a deep well a mile square stuffed full with fine hair, by working one hour every century, and may be of some use in naming the time the world's supply of petroleum will last, judging from present indications.

* * *

Further evidence for the senators from the Middle-West that the time of congress should be taken up in investigating the oil industry because the dissolution decree is not observed and the members of the original Standard group are still operated as a unit, can be found now in West Texas. Humble is stepping in with a long line to get some oil the Southern Crude Oil Purchasing Company was quite anxious to tie up. Humble's line will deliver to New Jersey tankers at Corpus Christi and the Southern wants oil for the Indiana Company's plant at New Orleans, which is making gasoline to sell in the so-called Louisiana and Kentucky territories. Probably these evidences of competition can be interpreted as mere gestures, but it looks sometimes as if the only occasions when the big boys get together without a scrap is when they might happen to meet in the ante-room of a New York banking house, where they go to get money to fight each other with.

Style fixers say that this season the ladies must show half a knee, without saying which half—probably leaving the tolerance so that those who think they have knees to show may show and those modest enough to admit they are not shapely may hide them. Our observation on this half business is that about that proportion of those shown could best be hid. At least there is no mercy yet for the poor girls with unshapely limbs.

* * *

And further consideration of styles, we note from a pictorial description of what the well-dressed man will wear this year that, as formerly, only about one millionth of one per cent of the male species will qualify as well dressed.

* * *

The latest oil strike in East Texas has started a spirited chamber of commerce war over which town will benefit from the large ingress of population which their hopes indicate will follow. It is hard to divide a single shut-in oil well between two towns to their mutual satisfaction, especially at a time when only the community and the shareholders of one company are elated over the prospects of a field.

* * *

A Greek lawyer has filed an appeal of the death sentence imposed upon Socrates by the Athenians. As that sentence was passed and executed something over 2300 years ago, this appeal is probably set up to counteract the idea that disposition of current business is slow.

* * *

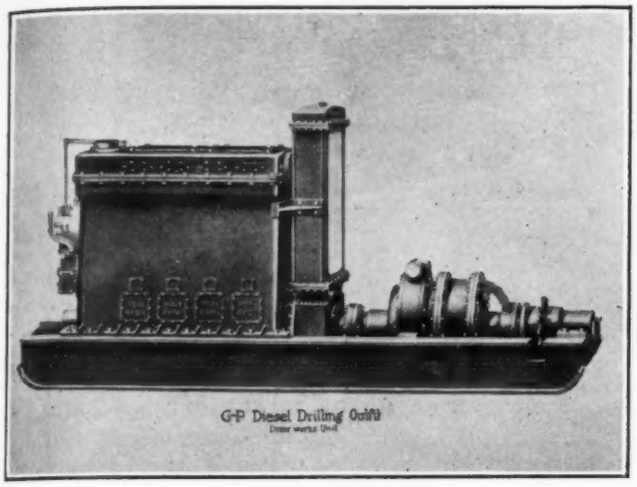
Among the current questions might be included: "What profiteth a refiner to have cracking stills when fuel oil is worth as much as crude?" And the government is still suing some cracking patent owners for collusion in fixing the price.

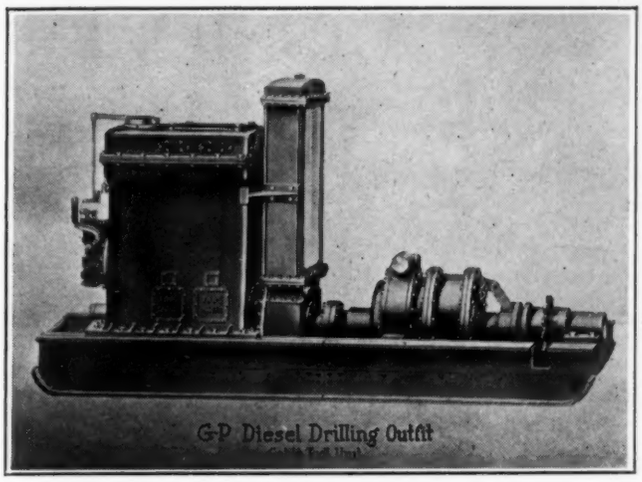
* * *

One of the inequalities of competition between oil and coal is that the oil industry cannot engineer a shortage by encouraging its workers to go on strike every spring.

* * *

The latest development in oil tax proposals comes from Oklahoma and is probably the record for all time. Now it is proposed that the oil industry, which is most of what Oklahoma has, shall pay a two per cent gross production tax into an endowment fund for the public schools—on the assumption probably that eventually the State's oil wells will play out and the most profitable source of public revenue will be removed. To keep from appearing discriminatory, the proposed enactment will include certain other minerals, but at half the rate imposed on oil production. It is laudable to think of the future education of the young, but it is to be hoped that Oklahoma's present educational system has proven sufficiently efficient that the State's electorate knows better than to attempt such an outrage upon private property. In every State where oil is found it pays more than a just share of current support of public institutions, and to think of extending that support into the future is not only without precedent, but contrary to the only justification of taxation—that the payer is benefitted by the government he supports.





Diesel Rig Drills 3500 Feet; Fuel Cost $98.60

DRILLING a well to 3500 feet with a total fuel and lubricating cost of $98.60 suggests economy.

It was done with Diesel power.

The Diesel outfit was installed about one year ago at Redondo, California. Success of this plant was such that the same company installed a similar outfit on a Brea Canyon wildcat where drilling conditions are more severe. It was necessary to drill through conglomerate and undetermined strata. In this second well using Diesel power exclusively, after four months of constant drilling the total fuel cost was less than three barrels of 24 degree fuel per day.

James Garvey, director of Diesel drilling, states that it demonstrated its economy and efficiency. Diesel power, he believes, will be responsible for drilling's taking a revolutionary step forward.

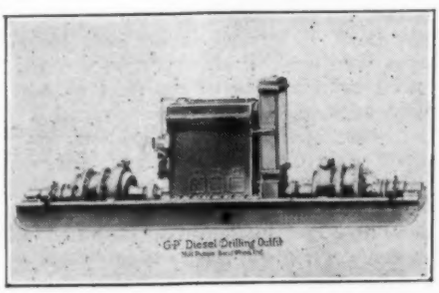
Garvey, president of Garvey & Palmer, Inc., of Los Angeles, conceived the idea of drilling with Diesel power and engaged the services of Harry Gearing, consulting engineer. They have completed the design and construction of a new type clutch for use in conjunction with Diesel power so that the proper torque can be obtained and the danger of twist-offs minimized.

At the Redondo well, the equipment consisted of a four-cylinder, 150 horsepower full Diesel engine with instantaneous air control reversing and heavy duty disc clutch operating the drawworks. A three-cylinder 110 horsepower Diesel engine was used for operating the slush pumps and band wheel. Net savings over steam power were in excess of 70 per cent, according to Garvey.

Recognizing the possibilities of Diesel power, the firm of Garvey & Palmer, Inc., arranged to take over the Pacific Coast distribution of Foos Diesel engines. A petroleum distribution division has been established in Los Angeles for the purpose of handling Foos Diesel Engines in conjunction with G-P Diesel drilling outfits.

New drilling equipment as designed by Garvey & Palmer will be known as the G-P Foos Diesel Rotary Outfit. It consists of one Foos type L three-cylinder Diesel engine and one Foos gasoline auxiliary starting engine, the Diesel engines being hooked up with G-P clutches. A two-cylinder unit has also been designed for cable tool drilling.

The four-cylinder engine has a speed range of from 400 to 900 revolutions per minute and a power range of up to 200 brake horsepower. This power unit drives the drawworks by chain and sprocket and is mounted upon a heavy metal base with a G-P disc clutch with instantaneous reversing and air control. The three-cylinder engine with a speed range of from 400 to 900 revolutions per minute and a power range of 70 to 145 brake horsepower, is equipped with two G-P disc clutches, one at each end of the engine, offering instantaneous reversing and air control. This particular unit drives the two slush pumps by sprocket and chain to a jack shaft having an individual chain drive for each pump. It also operates the band wheel when desired, using an individual chain drive. The auxiliary equipment includes a starting compressor engine with air tanks for instantaneously starting drawworks and slush pump engines.



Adjustable Torque

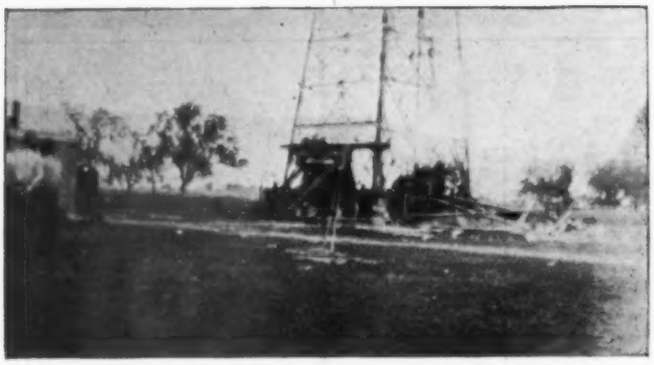
A novel arrangement of the G-P clutch permits of automatic control so that no excessive strain can be imposed upon the drilling equipment. An adjustable torque arrangement which can be manually adjusted cuts down the probability of twist-offs. After the limit of torque as set by the operator has been reached, the clutches will automatically slip. The construction is such that this slippage can be continued indefinitely without excessive wear or tear. "The drawwarks clutch feeds the drill pipe automatically when drilling, without attention from the operator, so that the functioning of the torque is not dependent upon the human element," declares Garvey.

In the event that any foreign matter enters the pumps and stalls them, slipping of the G-P clutch prevents damage and consequently prolongs the life of the complete drilling outfit. The jar of starting and reversing of the drawworks engine is reduced to a minimum, according to the inventor.

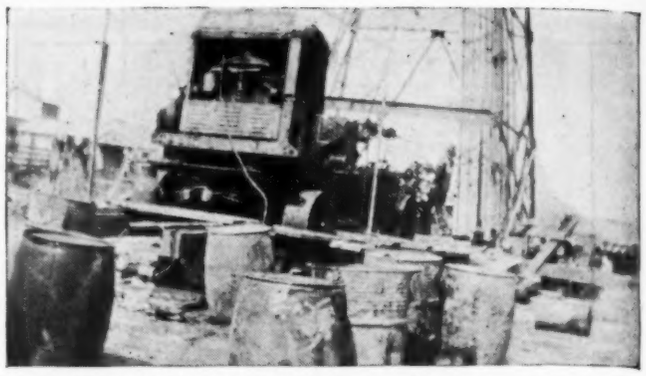
In appearance this complete Diesel drilling outfit presents an attractive design. There are no exposed rods or other mechanism that can be damaged by external forces. All moving parts are easily accessible. The upper base or main housing which carries the fuel pump and governor drives encloses the other principal working parts including the cylinders proper, the cylinder heads and valve gear. This housing is ribbed and based to withstand stresses within the engine proper as well as to assure complete resistance against distortion and vibration.

Clutches are aligned with the shaft and the entire unit is very compact, the combined weight of both drawworks and mud pumps units being only 18 tons. Due to

(Continued on page 44)



THOMPSON 2, WHICH MADE 50,000,000 FEET OF GAS FROM 915 FEET, AND NOW HAS 23 FEET OF SAND SATURATED WITH 18 GRAVITY OIL AT 1004 FEET



AUSTIN COLLEGE 3, HUMBLE TEST AT RACCOON BEND, AUSTIN COUNTY, IS BEING PUT ON AIR AFTER FAILING TO FLOW FROM 12 FEET OF OIL SAND AT 969 FEET. 50 H. P. WAUKESHA MOTOR IN FOREGROUND DRILLED THE HOLE

Humble's Austin County Well To Be Put On Air

Houston.—Humble Oil & Refining Company was making preparations early this week to complete its Austin College 3 in the Raccoon Bend area, Austin County, by use of air lift. If the method is successful it will represent the opening of the initial oil production for this area through use of air.

The company is using an Ingersoll-Rand portable compressor in an effort to flow the well, which failed to flow from 12 feet of oil sand to a total depth of 969 feet due to lack of gas pressure.

GAS HOOK-UP ON HUMBLE'S WALTON 1, WHICH IS NOW SAVING $200 DAILY BY SUPPLYING GAS TO THREE RIGS. HOOK-UP SHOWS KEROTEST MASTER GATE VALVE AND U. S. GAUGE

After the well had been drilled 12 feet into a sand saturated with 18 Baume gravity, black crude, the hole was bailed, but the fluid failed to rise. Air forced through two-inch tubing to flow oil through 6⅝-inch casing is the method to be applied on the Austin College test.

By using gas from the Walton 1 well, which was completed as the initial pay well at Raccoon Bend in February, the Humble is saving approximately $300 per day on fuel for drilling other tests in the same vicinity. Three rigs are now using gas from the Walton well delivered through two-inch pipe to the other locations. These three rigs, it is estimated, would consume 120 barrels of fuel oil daily, which delivered at the locations, would cost $2.50 per barrel. Reese 2, Thompson 2 and Bellville School 1 are being fed by gas from the Walton well.

Walton 1 was drilled with a 50 horsepower Waukesha motor to its pay depth of 1003 feet in 20 days drilling time, with the bulk of the hole made through broken rock formation. The well was drilled with about 16 barrels of gasoline. The present gas production from the Walton 1 is coming from two feet of sand. The well now has a flowing pressure of 475 pounds, and the initial open flow was estimated at 15,000,000 cubic feet.

The problem of importance now faced by the Humble at Raccoon Bend is lack of connection between the gas and oil sands. Thompson 2, located one-half mile east from the Walton producer, made 50,000,000 feet of gas from 915 feet. The well was mudded for deepening, and entered an oil sand at 981 feet. Several barrels of 18 gravity crude were bailed from open hole, which operation was followed by a cave-in of five feet of hole over the sand. The well was cleaned late last week, and perforated pipe was being run Tuesday for a second test. Oil was rising in the hole at the time the caving took place. Total depth of the hole is now 1004 feet in a heavily saturated oil sand.

Washington 1 is waiting on cement to set with 15 feet of rich oil sand at a total depth of 1063 feet. Bellville School 1, drilling with a heavy steam rig, was 1718 feet in shale Monday. Austin College 2, about 400 yards west of the No. 3, was 1697 feet in sand with no oil or gas showing. Reese 2, which bailed several barrels of oil from a sand at 1001 feet late last week but failed to produce, is

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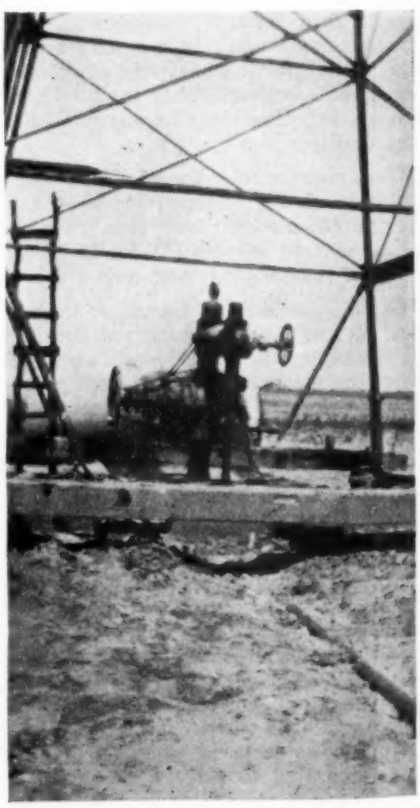

WALTON 1, DISCOVERER OF GAS AT 1003 FEET AT RACCOON BEND, FLOWING 15,000,000 FEET INITIAL. THE WELL WAS DRILLED WITH A 50 H. P. WAUKESHA MOTOR AND 42-FOOT LEE C. MOORE TUBULAR DERRICK

Church and Fields Peak in April To Be Short Lived

West Texas flush area expected to reach peak of 55,000 barrels, but new wells starting will not sustain it

By H. H. KING
Staff Representative

San Angelo, Texas.—Development of the Church & Fields area in Crane County is traveling at a fast pace, with a peak flow of 55,000 barrels or more daily in store for the field by the close of April. The high mark on production will not be maintained for a long period, since new tests are not being started in numbers to uphold the crude output when the top level is reached.

The Church & Fields area is producing 32-33 gravity sulphur contaminated oil from sandy-lime pay somewhat similar to that found in the Big Lake field, Reagan County, and has furnished more big wells than any other West Texas field. The University of Texas owns the land bearing the field, and receives one-eighth of all oil produced which brings a price of 84-86 cents, accordiig to the gravity.

An open flow gauge of the production in the Church & Fields area has not been obtained since the completion of the first big producer late in January, but during the week ending March 29 the field averaged 15,865 barrels daily from 31 flowing and pumping wells, or 512 barrels daily per well. The potential output of the field early this week was placed at 30,000 barrels estimate, allowing for wells held on top of the pay for storage and pipe line connections to repeat the performance of offsets, such a rule having held good with few exceptions.

The field has two dozen wells that are scheduled for completion within the next two weeks, and if provisions can be had for handling the oil most of these will be ready to drill in late next week. Most of the wells within striking distance of the pay horizon are located in the known flush area, and completions will be rushed to gain protection from drainage. The operators with wells shut down on the pay, or within a few days drilling to the oil horizon follow: Eastland Oil Company & Collett-O'Keefe 2; Gulf 5; Humble 4; Independent O. & G. Company 1; Magnolia 2; Prairie 2; Simms & Atlantic 4; and Tidal Oil Company 2.

Steel storage completed and building in the field will be called upon to take care of crude produced in excess of pipe line outlets from the Church & Fields area. Three 55,000 barrel tanks have been completed, and other large tankage under construction will add 504,000 barrels, with a new tank scheduled for completion every few days until the work is finished, making 669,000 barrels of large tankage facilities. Other large tanks will be added as the production climbs to higher levels. The operators in the field have a total of 130 flow tanks scattered around the leases in sizes ranging from 250 to 10,000 barrels capacity, and this miscellaneous tankage has a combined capacity of 189,680 barrels.

Four Pipe Lines

Four pipe lines will aid in holding down the over-production in the Church & Fields area, including a six and eight-inch built by Humble from McCamey station, where Humble's West Texas trunk line system terminates. These two carriers will afford 35,000 barrels of capacity, but 5000 barrels is taken up with crude from the Gulf-McElroy field account of Humble having a contract with Gulf for this amount. Gulf has an eight-inch line from the McElroy field to tank farm and tank car rack at Midland, with a six-inch branch line serving Gulf's lease in the Church & Fields area. This line will not be available for outside oil. The Southern Pipe Line Company is counting on taking 15,000 barrels daily from the Church & Fields area through its six-inch line leading out of the field and emptying into a pair of four-inch pipe lines enroute to tank car rack at McCamey.

The oil producing area in the Church & Fields pool was extended four locations, or a half mile, to the south and widened three locations to the west on the lower end during the past week. The latter extension was made by Geo. Church & Bert Weekly's University 1, located in the southeast corner 80-acre lease, section 39, flowing 2350 barrels natural from lime pay at 2842-81 feet. This well proves the flush area for six locations in width. Carl Cromwell & Frank T. Pickrell, discoverers of the Big Lake field as driller and manager, respectively, of the Texon Oil & Land Company, furnished the south extension to the field by drilling in their first test on a 160-acre lease flowing 50 barrels hourly at 2809-60 feet, with production increasing with deeper drilling. This well logged the formations unusually high, and was due to equal the performance of some of the best wells in the field, but the formations were found somewhat tight.

The first big well in the Church & Fields area to cease flowing was the pany's University 2-A, which fell a victim to back pressure made necessary by the proration of pipe line runs by Humble, and insufficient storage to permit open flow while three offsets were wide open. This well blew in February 13 making above 300 barrels pipe line oil hourly from lime pay at 2889-2953 feet, with most of the production going to earthen tanks after being gauged to determine royalty interest. The well was pinched in after two weeks to less than 2000 barrels daily, with back pressure ranging from 200 to 250 pounds, as per instructions from the Railroad Commission. Production has since been pinched, but in the meantime Humble, Tidal and Eastland completed direct offsets that were allowed to flow open. The Simms-Atlantic well went dead April 2 when the Eastland Oil Company et al's offset was deepened for a production increase of about 900 barrels, making 3850 barrels Saturday and 3680 Sunday. Humble's well was flowing above 5000 barrels daily when Simms-Atlantic's flow failed, while Tidal's offset was making 2940 barrels daily.

Use Air Lift

Air lift methods will be applied to the Simms-Atlantic dead well as soon as the hole can be cleaned of paraffin accumulation in the casing, and the results of this initial trial of flowing wells with air in this field will be watched with great interest. If successful, the field will take to air lifts before the gas pressure goes off the oil pay.

Pipe line connections for the Hendricks field, Winkler County, and the Yates shallow field, Pecos County, are to be available next week, and crude from these two new fields will be thrown on the market. Southern Pipe Line Company is reported to have completed screwing pipe on its line leading from the two flowing wells on the Hendricks land to a 72-car capacity rack at Wickett, Ward County. This line will take 1000 barrels daily from other producers in the field, besides handling the production of the Southern Crude Oil Purchasing Company,

(Continued on page 46)

Geology of the Panuco District

By CHARLES LAWRENCE BAKER

The Tampuche syncline separates the Panuco anticline from the Paciencia y Aguacate dome. Its west flank is the steeper. The plunge is to the south. The direction of the branch which plunges southwestward from the northwest side of the Paciencia y Aguacate dome, if continued, would reach the area of closest faulting on the Ingenio and Petrero del Zacate leases on the southeast flank of the southern part of the Panuco anticline. It is noteworthy that the intermediate zone on both flanks and in the trough of the Tampuche syncline has been a fairly continuous belt of high production. The olivine-basalt (limburgite) intrusions of west Maguabes are in the trough of the Tampuche syncline.

Topila is a domical uplift, irregular in outline and in detail of structure. Its point of highest known structure, on the Paciencia y Aguacate dome, where the top of the Washita is 2145 feet beneath the surface, is 400 feet lower than the point of highest known structure of the Panuco anticline. A terrace of about one mile in width and three miles in length from east to west borders the southeast flank of the main dome. The dome is apparently flanked on the south by fairly steep dips, but there has not been enough development to make this certain. The summit area of the dome is fairly flat structurally over an area of about seven square miles and probably for this reason fracturing does not seem to be so great as in the Panuco section. Relatively little development has been done in Topila, hence the structural conditions are very imperfectly known, especially on the northeast and south flanks. The faults now known appear to imperfectly radiate from the center of the Paciencia y Aguacate dome.

We now will consider the nature and cause of the most puzzling phenomenon of the greatly variant thicknesses of the Upper Cretaceous formations. The accompanying table of thicknesses in East Coast Oil Company and other wells will serve to place some of the facts before the reader.

FORMATIONAL THICKNESSES
PANUCO AND TOPILA

Well No.	Pierre: Top Red Mendez To Top Green Lime	Colorado Group Top Green Lime To Top Washita
INGENIO		
420	1080?	340
422		320 or more
423	1210?	380?
425	1165?	250?
426		330
427		265?
429		320
430	1150?	320
431		320
432	1040	390 faulted
433	1160	400
434	1120	330
436	1180	320
437	1120	330
438	1170	320
439	1190	280
443	1120	325
446	1280	320
447	1160	
450	1120	320
451	1200	280
452	1280	323
453	1140	330
457	1170	230
D. A. Williamsan		
I. K. Tampuche		503
Transcontinental-Artega Tampuche		370
Halcon:		
206	1316	304
207	1270	
211	1320	300
212	1320	300
213	1260	335
214	1290	340
216	1400	330
217	1200	320
223	1190	320
228	1215	325
229	1170	330
Laguna de la Milpa:		
M-13	1190	
M-16	1140	365
M-20	1250	380
M-21	1210	348
M-22	1260	340
M-23	1180	370
M-25		335
M-26	1060	330
M-28	1190	315
M-29	1180	403
M-34	1220	330
M-38	1210	300
M-39	1130	330
M-40	1080	335
M-44	1130	350
M-47	1150	335
M-52	1310	
M-53	1270	360
Tantoro 12:		320
Chijoles uno, National 15:	1255	260
Portrerillos:		
M-14		243-263
M-15	1240	425
424	1175	
M-42	1270	327 or more
Manzanal Lease:		
M-12		258-288
Potrero Recreo:		
M-17	1220	370
M-19	1325	300
M-43	1600	390
Estero Grande:		
M-18	1280	407
Tamboyoche: (Topila)		
P-3	1310	
P-4	1325	310
506-A	1270	395
508	1500	310
508-A		302
509	1300	397
Palangana:		
304	1220	225
305	1290	255
306	1220	315
P-7	1240	220
P-8	1230	280
P-10	1290	360
306	1223	355
Con Mex. 6	1240	240
Credito Petrolero Vega	1197	254
Texas Azuara-3		
Tamante:		
T-1	1280	200
T-2	1205	245
T-4		180 faulted
Maximum	1600	505
Minimum	1040	200

Note: Mrs. Applin's San Felipe includes lower part of writer's Pierre.

It will be apparent from these lists that the geologist cannot safely use any structural datum plane above the top of the Washita. Neither the study of formainifera nor lithologic correlations of the upper formations will afford accurate data on the structure of the top surface of the Washita.

We can safely eliminate as possible causes of the variations in thickness, difference in rate of dip, inequalities of sea bottom, unconformity, variations in thickness of volcanic tuff, and current action since one formation may be thick while the other is thin or the reverse, or both may be either thick or thin and the differences are very irregularly distributed in location. For instance, in well M-15 the Colorado group is 425 feet thick and the Pierre 1240 feet. In nearby wells the thickness is as follows:

			Thickness Colorado Group Feet	Thickness Pierre Feet
M-12	1080 ft.	distant E N E	288	
M-19	2025 "	" W	300	1325
M-43	1050 "	" N N W	390	1600
M-42	1960 "	" S S W	327	1270
424	820 "	" S		1175
M-14	1540 "	" S S E	260	

Top of the Washita lime is 15 feet and 30 feet respectively deeper in M-12 and M-14 than in M-15.

The thickness variations in an area

THICKNESSES FROM FORAMINIFERAL DETERMINATIONS
By Mrs Esther Richards Applin
PANUCO AND TOPILA

Potrero Recreo:								
M-17	170	170	220	240	200	420	860	835
Laguna de la Milpa								
M-13	...	...	158	360-440	...	...	...	...
Halcon								
206	180	80	190 or less	150	250	370	770	910
207	...	...	...	...	...	400 or more	...	...
208	220	380	...	...	...	...	...	...
209	...	...	...	140 or more	180	200(?)	540(?)	...
212	160	120	160	240	140	490	870	920
Tamante-1	...	...	...	...	...	...	1000	640
Palangana-8	...	...	...	...	...	400 or more	...	690
Tamboyoche-	508	...	...	100 or more	590	195	885	710

of less than a square mile in the Ingenio lease, excepting wells with evidence of faulting, is from 230 to 400 feet for the Colorado group and from 1120 to 1280 feet for the Pierre. In the Halcon lease where the dip is low and more regular than ordinarily the variation is from 300 to 340 feet for the Colorado group and from 1170 to 1400 feet for the Pierre.

The wells were drilled with standard and rotary tools and we cannot adequately evaluate thickness variations caused by drag near faults and slumped blocks or by settlement as an effect of solution or cooling of magmas. A greater amount of consolidation (increase in density), caused by increased downward pressure of a thicker rock section is not a satisfactory explanation since the Colorado group has a greater average thickness in the Tampuche syncline than in the anticlines. There is one factor which we cannot successfully eliminate; that is the driller.

However, there are available other lines of evidence, derived from a study of surface outcrops and diamond drill cores. The Pierre is extensively exposed on the axial portion of the Sierra de Tamaulipas anticline for many miles north of the Panuco section proper and the entire Upper Cretaceous section is exposed over a vast area of the great geosyncline between the Sierra de Tamaulipas and the Front Ranges of the main Cordillera. The strata in all these exposures are locally strongly crumpled and buckled. Faults with silckenslided walls and calcite veins are by no means rare. Such crumpling and faulting are to be expected in the non - competent poorly consolidated Pierre and Velasco strata of the geosyncline since both downward flexure and extensive thrusting from the west are certain to cause them. Yet they would scarcely be predicated over the low, broad, gently deformed arch of the southern end of the Sierra de Tamaulipas anticline.

The Topila Hills are situated at the east edge of the oil-producing territory, that is to say, at the east foot of the broad arch forming the higher part of a much broader anticline. There is a steepening of dip in the Washita in the vicinity of the Topila Hills. These hills are composed of strata of the lower half of the Genozoic thrown into narrow folds with medium angles of dip. It has been proved by drilling that these folds are superficial and do not extend so far down as the Washita.

Strata of the first half of the Cenozoic are deformed into narrow, very sharp folds in an area a short distance northwest of the town of Sota la Marina. This place is also well down on the east flank of the Sierra de Tamaulipas anticline. The thickness of the strata intensely folded varies between 500 and 1000 feet. Several of these folds with steep, vartical and even overturned dips and faulting, are crossed in the distance of a mile. The dips flanking this area are not at a maximum over 10 degrees and nearly all eastward.

Itamex La Mula No. 20 well was drilled in the northeast part of the Topila field. The Benton strata in this well dip from 2 to 5 degrees, but there is no apparent dip in the overlying Niobrara. International Naranjo No. 8 well, also drilled with diamond core drill, is estimated on the west flank of the geosyncline lying west of the Sierra de Tamaulipas and about 40 miles northwest of the town of Punaco. Local high dips and crumpling are shown by the cores through a section 275 feet thick with its top 50 feet below the top of the Washita, while both above and below the 275 feet zone the strata are virtually horizontal. Similar crumplings are shown in cores from La Aguada and no well yet continuously cored has failed to show local crumpling.

THE geology of the Panuco district of Mexico has for sometime offered a most interesting subject for study and research but before the preparation of the accompanying article very little authoritative data has been published on this area.

Dr. Baker's discussion is complete and comprehensive and will form a valuable adjunct to any geological records on Mexico. The length of the article requires more space than was possible to give in one issue so it has been divided into several sections, of which this is the third.

The article will also be published in the Bulletin of The American Association of Petroleum Geologists.

The buckling of the older Tertiary strata in narrow zones on the east flank of the Sierra de Tamaulipas anticline appears to have been caused by thrusting movements since no nearby laccolites or other forms of large intrustions are known which could perhaps cause the shortening demonstrated in the zones of closer folding. The intraformational zones of movement shown by crumpling and dips not found higher or lower in the vertical section—and which are a common phenomenon in the eastern Front Ranges of the Cordillera—are apparently also caused by thrusting. The zone of disturbance which extends west-southwest from the northwest margin of the Paciencia y Aguacate dome diagonally across the deeper part of the Tampuche syncline and across the southern part of the main Panuco anticline may have caused the shift to the westward of that part of the anticline and caused its fracturing into blocks along sub-parallel faults, although these phenomena may have been caused by intrusion of igneous rock at lower levels. Finally, the widespread occurrence of the above described types of crumplings in adjacent territory and their more probable origin by thrusting gives the same as being the more plausible, though perhaps not the only cause of the variations in thickness of Upper Cretaceous strata in the Panuco field.

There has been thrusting in the eastern Front Ranges of the Mexican Cordillera on a scale not known to be surpassed elsewhere on the continent. In the mountain territory directly west of Panuco the commonest type of structure is that of double-recumbent fan-folds. The well - consolidated limestone 3000 feet thick, which would be competent under almost every other tectonic action, has behaved like wax, becoming squeezed into the fan-folds to so great an extent that the upper surface of the limestone in adjacent folds almost meet and thousands of feet of Pierre and Fox Hill marls, shales and sandstones relatively non-competent strata, have been squeezed out of the intervening synclines. Farther east the dominant structural type becomes westward dipping isoclines. Thrust-faulting is associated with both fan-folds and isoclines.

Farther to the north, to the northwest of Ciudad Victoria, there are successive overthrust sheets or "klippen" many miles in length, and with as much as four miles of determinable lateral displacement on a single overthrust. These overthrusts are of the imbricated type of the Scottish Highlands or Alps. Eastward, they pass, to the north of Ciudad Victoria, into westward dipping isoclinal structures, although one of the greater overthrust sheets forms the great Chorrito escarpment at the very edge of the plains area of the geosyncline between the Front Ranges and Sierra de San Carlos.

Still further north, to the south of Monterrey and Saltillo, the axial lines turn east-west, or nearly at right angles to their strike to the south and north and there is a relatively narrow province of closely-pressed fan-shaped folds.

North of Monterrey and Saltillo, the Lower and Middle Cretaceous limestone forms extremely steep and narrow anticlines with broad intervening synclines of the less competent Upper Cretaceous. This type of structure is most probably caused by an extensive sliding of the Cretaceous strata over a relatively immobile basement.

In the Chihuahua-Texas border area, south of Sierra Blanca and Van Horn, Texas, the Cretaceous strata are several times repeated in overthrust blocks and isoclines with southwestward dips.

In the northeastern Front Ranges the different facies of both Washita and Colorado group limestones are locally brought together by the thrusting.

The overthrusting in the mountains is to the eastward. Still we know nothing that will successfully contro-

vert the view that the thrusting movement was westward from the Gulf of Mexico towards the cotinental mass. There is also possibility that there were simultaneous thrustings from opposite directions. It is the effects, not the causes, which now concern us. It is judged that the most probable explanation of the variations of thicknesses in the Upper Cretaceous of Panuco is thrusting movements. Whatever the direction or directions of the thrusts it is conceivable that the more superficial Upper Cretaceous strata, less competent and resistant to deformative forces and more apt to yield by folding, crumpling, buckling and partial "flowage" than by sharp, well-defined and large fault displacements, both in the horizontal and vertical, have really so yielded, although the effects of the broad doming, solution, block-faulting with predominantly vertical displacements and the varied effeets of igneous intrusion cannot be satisfactorily separated from effects of regional thrusting even so far as to be certain which of these causes was dominant. A movement of westward translation from the depositional geosyncline of the western Gulf of Mexico would be transmitted more uniformly and regularly through the deeper-lying and stronger rocks and there would be marked tendency for the weaker superficial beds to lag behind in such a movement and the resistance generated in the piling up of the massifs on the eastern edge of the highlands to the westward would cause local yieldings in the weakly resistant upper strata. It is possible, indeed, that extensive overthrust sheets of Alpine proportions with their roots in the eastern Front Ranges once covered the Panuco field and caused crumplings underneath the major thrust planes, but no remnants of such are now known, although it must be remembered that there have been two fairly complete cycles of erosion in the country east of the Cordillera since the greater earth movements ceased.

Dates of Deformation

Although the evidence for dating the two epochs of deformation is fairly satisfactory for the Sierra de Tamaulipas anticline, it will be necessary to utilize data at hand for entire northeastern Mexico in order to present the history in fairly complete manner.

The only undubitable evidence of unconformity within the Cretaceous is found on both east and west flanks of the major anticline of the eastermost Front Ranges for well over a hundred miles to the southeast and south of Gomez Farias and the upper end of Guyalejo Canon where the stream leaves the Jamauve Basin. This is the same line along which the deeper water Tamaulipas limestone facies abruptly changes to the shallow water El Abra reef facies. The localities given are from 90 to 120 miles northwest of the town of Panuco. In both localities the Pierre with a basal conglomerate lies upon eroded edges of the Washita. The conglomerate contains rolled, waterworn and partially corroded rudistids of the Washita. There appears to be here definite evidence of unconformity since brecciation caused by latera, movement could scarcely have occurred on the junction of the very competent Washita limestone and the incompetent marls of the Pierre. The Cordillera exhibits many zones of intraformational brecciation within the competent limestone sequence, but such are to be expected in acute deformation. The zone of unconformity extends along the outer Front Range to far to the southwest of Panuco, remnants of the San Felipe series being found locally beneath the Pierre.

The Georgetown strata in the El Abra Range, 45 miles west of Panuco town, is largely made up of rolled fossils and is succeeded by a limestone mainly composed of Miliolid foraminifera. The rolled fossils appear to have been deposited in shallow water; more likely they were piled up in reefs as the effect of currents. The fossils are predominantly reef-building rudistide and chamids.

The El Abra Range is the southern continuation of the great anticline between the Jamauve Basin and the geosyncline to the east of the Cordillera. It is probable that movements occurred along this line in the Cretaceous, possibly a continuation of earlier movements shown in later Palezoic or earlier Mesozoic folding.

The movements which brought to an end the late Jurassic-Cretaceous cycle of marine deposition are first apparent in clay and sand deposits of the Colorado Group in the region from Monterrey west to beyond the Durango border, but with the exception already noted along the east limit of the Cordillera, they are not known to have affected the county east of the Sierra Madre Oriental. The Fox Hills to the west of the Front Ranges of the latitude of Tampico, is largely composed of shales, sandstones and even thin lenticular layers of chert conglomerate. Fox Hills sediments of the same nature extend northward into the Tulsa Basin. Between the Tulsa Basin and Saltillo the geology is nearly unknown, but from Saltillo and Monterrey to the Rio Grande there is a great development with a maximum thickness of about 5,000 feet of terrigenous Fox Hills and Laramie. Since brackish water fossils occur practically throughout this sequence there must have been great depression in the basin of deposition. Apparently the Fox Hills and Laramie sediments were derived from a recently uplifted land mass farther west. We have already noted that shore line deposits appear in the basal Pierre 150 miles to the west-northwest of Panuco.

In the southern oil field, from 55 to 80 miles south-southeast of Panuco, there was probably great erosion between the Upper Cretaceous and later Eocene and Oligocene and it is noteworthy that the Washita is there the El Abra reef facies. All of the Colorado Group as well as later Cretaceous and the Lower Eocene, are missing from parts of the south fields anticline. Since the remnants of later Cretaceous and overlaps of different stages of the older Eocene vary a great deal in amount in relatively nearby localities it is probable that there was folding along the south fields anticline in later Cretaceous or possibly very early Eocene, and that the fold in places remained above the surface of the early Tertiary sea as late as the younger Eocene. A possible alternative is that the missing formations may have been thrust out of the South Field section.

Definite evidence of marine Tertiary now existent west of the Sierra de Tamaulipas anticline is lacking. East and south of the Sierra de Tamaulipas there was extensive overlap progressive to the westward of the sediments of earlier Tertiary, but there is yet no definite evidence of angular unconformity between Cretaceous and earlier Tertiary. The region of higher structure of the Sierra de Tamaulipas anticline has no Tertiary sediments. Angular unconformity between Pierre Cretaceous and Midway Eocene on the Rio Pesqueria is reported by Cummins and Kennedy and on the next river south by Brantly and Powell.

The Chicontepec is a thick series of shales, sandstones and chert gravels, the latter presumably derived from erosion of Cretaceous limestones, which outcrop in a synclinal area between the eastern Front Ranges and the south fields anticline. The lower part of the Chicontepec may be late Cretaceous; the upper part appears to be earlier Eocene. The cross-bedding and coarseness of sediments of the Chicontepec suggest deltaic deposition in a sinking syncline, perhaps contemporaneous with rising land areas in the eastern Front Ranges and South Field anticline.

The lower and middle Eocene sediments of the Mexican part of the Rio Grande embayment are both thicker and more prevalently coarse than those of the same age in Texas. They were most likely derived from the denundation of the Fox Hills and Laramie, which in turn most probably come from the westward since in western Mexico there appears to have been folding, extensive intrusion and metamorphism after Benton time and great erosion during Fox Hills and Laramie. West-central Mexico and central Mexico are so largely covered with Tertiary volcanics that about all we definitely know of these provinces is that older Cretaceous stratas were much folded and the regions subsequently greatly eroded before the outbreak of the volcanism.

The Sierra de Tamaulipas anticline was folded in the later epoch which formed the present eastern Mexican Cordillera. It was during this time that the Tertiaries east of the Sierra de Tamaulipas were tilted towards the Gulf of Mexico and the last folding of the south fields anticline occurred. The date of this great diatrophism is not entirely certain owing to the doubt existent in accurately correlating tropical post-Eocene Tertiaries. The folding is later than the age of

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CONDITION OF THE DRILL STEM TAKEN FROM THE FIRE AT PINE ISLAND

PULLING RIG PARTS FROM THE FIRE WITH A TRACTOR—HERNDON AT PINE ISLAND

Pine Island Gas Well Fired While Blowing in

Shreveport, La.—The Texas Company's Herndon 5, section 14-21-15, Caddo Parish, which blew in Monday, March 29, making an estimated 30,000,000 cubic feet of gas and 500 barrels of oil per day, and which caught fire soon thereafter, has furnished practically all of the news of interest in the Shreveport territory during the past week. For the most part, the Louisiana-Arkansas-East Texas operators marked time last week pending the outcome of several tests which should be completed early this week.

The Texas Company's Pine Island gas well became ignited after blowing in from a depth of 3590 feet, while the crew was rigging up to bail. Several different versions of the cause of the fire have been offered, but it is generally supposed that pieces of flint rock which were blown from the hole when the well came in, must have struck the bailer and caused the spark.

Several serious injuries were narrowly averted, the derrickman barely escaping from his position in the derrick with his life. Only the timely warning of his fellow workers and quick movement on his part kept him from being burned to death. Also, Mr. R. C. Stewart, general manager for The Texas Company in this territory, was seriously burned when he attempted to close the gate valve. He succeeded in getting inside the derrick and partly closing the valve, but the pressure of the well exploded the valve, letting the flames burst out all around him. He dropped to his hands and knees and was able to crawl away to safety while workmen played water over him from two water hose. He was painfully burned about the hands and face, and has been confined to the sanitarium since the accident.

The drilling rig and equipment was completely destroyed, as well as the wooden derrick and fittings on the well. To this can be added the value of the production which was burned during the week that the well was on fire.

An idea of the extreme heat of this fire can be gained by referring to the picture showing a part of the drill stem which was stacked in the derrick at the time the fire started and which was dragged out of the fire the next day. It is twisted about in the same manner as one would twist a piece of small gauge aluminum wire with the hands. In order to secure holds on this drill stem, as well as pumps and other pieces of drilling machinery dragged from the blaze with the use of winches mounted on a truck and tractor, it was necessary for an expert fire fighter to fasten wire lines to them by walking into the fire protected by an asbestos suit and helmet. He succeeded in salvaging all of the drilling rig from the fire, which allowed a free flow of steam from 11 boilers to be turned upon the fire simultaneously, resulting in its extermination Saturday.

During the time that this well was burning, it was the mecca for hundreds of curious people from all parts of Caddo Parish. In fact, the crowd became so large along toward the latter part of the week that it was necessary for the company officials to stretch rope retainers around the well; and, in addition, police were stationed at strategic points to keep the crowds from getting too near the fire. The company is now installing equipment on the well to close it in and it should be under control within the week.

Pleasant Hill

The Pleasant Hill district, Sabine Parish, remains in about the same status as it was the previous week. The Ohio Oil Company failed to get the sand, found in the Arkansas Fuel Oil Company's Logan 1 well, in the Cook 1, section 34-10-12, located about three-quarters of a mile east of the Arkansas' discovery well in section 33-10-12, now flowing at the rate of approximately 175 barrels per day. The Arkansas Fuel

Company's Logan 3, scheduled to drill in during the past week, has been delayed pending the straightening out of titles. This company has three holes drilled to the top of the sand found in the discovery well. Beckman & Freeman's Logan 1, located in section 28-10-12, about one mile north of the discovery well, is rapidly nearing the 3000-foot level, and should be ready to test early next week. The Magnolia Petroleum Company's Hall 1, section 33-10-12, is about ready to start up and should be setting the final string of casing by the following week.

The Richland Parish gas field reported three successful completions during the past 10 days, indicating that this part of the State is enjoying a rapid development since it was uncovered by the Gulf Refining Company in November of last year. The Gulf Refining Company completed its Mayfield 1, section 30-17-6e, as a 13,000,000-foot gasser at a depth of 2397 feet. S. D. Hunter completed his McCoy 1, in section 29-16-6e, making at the rate of around 12,000,000 feet daily from a depth of 2427 feet, and T. L. Jones completed his O'Neil 1, section 35-17-6e, at a depth of 2508 feet, flowing only about 4,000,000 cubic feet a day. The salt dome areas of Louisiana are beginning to get a play following the completion of the Humble Oil and Refining Company's Elliott well in Cherokee County, Texas. Practically all of the larger companies throughout this section are actively leasing lands in the southern portion of the State which formerly could not be leased for prospecting purposes. The majority of the leases, however, are for periods of from 10 to 15 years, and in a number of instances the land owner has been found to be more willing to sell than to lease.

Diesel Rig Drills 3500 Feet

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the Diesel outfit's light weight, a great saving is realized in hauling costs.

Garvey claims that there are no "stand-by" losses as the Diesel outfit requires no attention when it is not actually operating. After the well is drilled the outfit can be removed conveniently to another location and no intricate dismantling is required. Each unit is on its self-contained base.

General operation of a well using such an outfit is similar to a steam layout. But one less man per tour is required as no fireman is needed.

The design of the Foos-Diesel engine for drilling service is such that the speed ranges from 400 to 900 revolutions per minute which gives great flexibility and from one-half to two and one-quarter times the ordinary speed available for fast drilling. This results in a large saving of time coming out of the hole.

Garvey states that it is possible to drill straighter hole on account of the very even torque.

The engines are cooled by water through radiator circulation and the amount of water required is negligible, for within a period of 30 days only a few gallons are consumed. Garvey states that while the first Diesel power drilling experiments were carried on where water power and labor were easily available, the use of Diesel power in wildcat fields will effect larger savings. It is unnecessary to transport heavy equipment. The Diesel engine outfit can be used for rigging up before actual drilling starts. If installed in a field where oil is already being produced it is unnecessary to transport fuel.

Garvey & Palmer, Inc., plan to handle the distribution and installation of Diesel outfits in oil fields throughout the world. Arrangements are being completed for the opening of offices in various fields in addition to those offices already functioning. The Los Angeles Petroleum division is located at 420 East Third Street.

West Texas Success Taken as Encouragement For Production in New Mexico

Artesia, N. M.—The completion of the Gulf Production Company's Hendricks 1 in the southwest corner of section 4, block 5, Winkler County, Texas, 12 miles south of the New Mexico State line, has strengthened the belief that gusher production will some day be obtained in the southeastern section of this State. The Gulf's well, which logged over 100 feet higher strucutrally than the Westbrooke discovery well, has also strengthened the theory that a large fault extends from Pecos County, in a northerly direction, across the center of Ward, western Winkler and into Eddy County, New Mexico. This fault line has been drawn after a careful study of the logs of all the wells covering the area in question. A paper on this fault was recently read before the American Association of Petroleum Geologists' convention in Tulsa.

As a result of the Winkler County completion The Texas Company speeded up work on Rhodes 1, in section 22-26-27, and spudded in yesterday. This location is two miles north of the State line. Several other tests will probably be started within the next 30 days most of the work to be done by the major companies who control practically all Southeastern New Mexico. The Midwest Refining Company recently entered into operating agreements with permittees covering 17 permits. The Marland Oil Company and The Texas Company are also large holders in that section.

Local operators continue to watch the Inglefield, Bridges 1 State well, in section 4-17-34, which recently extended the Maljamar field a distance of 13 miles to the east. This well also opened a vast amount of territory, as it is on the cap rock or Staked Plains. A late report stated the Inglefield is drilling at 4750 feet with over 4000 feet of oil standing in the 8¼-inch hole.

The Cap Rock Oil and Gas Corporation have picked up the salt in its well, located in section 11-16-32, at 1011 feet. This well is running high structurally, basing this on the salt.

The Superior Oil Company of Los Angeles has made its first location in Southeastern New Moxico, this being in the southwest of the northwest of section 33-23-28, two miles south of the town of Loving. Rig timbers are being unloaded there and the well is located on a block of 8000 acres. Another California operator to drill in this area is George F. Getty, Inc., also of Los Angeles, who recently obtained a large block of acreage with a contract to drill a well.

Another pay has been encountered in the Midwest Refining Company's No. 1 well on the Hospah structure, in section 1-17n-9w, McKinley County, this being at a depth of 1625 feet. No gauge can be taken on the production as two strings of tools are in the hole. This company has moved a rig in for an offset, the location being in the northeast of northeast of section 2-17n-9w.

There will be considerable oil activity in the Vaughn section, this taking in western Gaudalupe and eastern Torrance Counties. A steel rig is under construction two miles north of the town of Vaughn, for a well to be drilled by D. I. McNabb and associates. It is the intention to go to the Pennsylvanian, if possible.

It is reported that the Navajo Oil Company will resume drilling on its Transport 1 test, seven miles southeast of Vaughn, work having been suspended last December with the hole down 1300 feet.

The Davenport interests of Tulsa have taken over the Diamond Oil Company holdings according to a late report, and will complete the Duran well in section 31-30-15.

Texas Company Changes New Mexico Location

Santa Fe, N. M.—The Texas Producing Company has abandoned its location on section 34-16-31, Lea County, before spudding. A new location was made on section 25-16-31 and the rig has been completed. These locations are only a short distance from the Maljamar wells which opened up the new Lea County pool. The Texas interests have a large block of acreage on the structure. Another test will be drilled on section 22-26-37. The Lea County field promises to be one of the largest in the State.

More Eastern Gray County Territory Opened; Panhandle Operation Curtailed

Amarillo, Texas.—Additional oil producing acreage in the Gray County section of the Texas Panhandle was opened for development during the past week through wildcat activity in the eastern part of the county and one test drilled two miles south of the Wilcox-Pampa field. Blackwell-McGee and others wildcat test on the J. B. Powers land, located in the southeast corner of section 92, block B-2, H. & G. N. survey, is showing for a light oil producer in granite-wash pay at 2946-50 feet after casing off 45 million cubic feet of dry gas at 2630-2835 feet. The hole filled 1000 feet with oil after drilling four feet in the granite-wash pay, and deeper drilling will take place before giving the pay a shot of nitro. Gulf has the east offset to drill. Acreage and units were sold to finance the Bowers test, with a drilling block of 671 acres.

Travis and associates of Tulsa opened the new oil producing territory in Eastern Gray County on the Mrs. J. D. Back land during the past week after placing a shot of 90 quarts in granite-wash and sandy-lime pay at 2650-70 feet, with a total depth of 2674 feet. This wildcat made one bailer of oil per hour after shot, and will be swabbed before going on the pump. It is located at the center of section 44, block 25, H. & G. N. survey, and about four miles southeast of the McNabb discovery well in this section of the county. The Back well logged the top of the lime at 1824 feet, with a surface elevation of 2689 feet. The next completion in this area will be Empire's L. H. Webb 1, located in the southwest corner of section 59, and early this week was drilling below 2400 feet after having changed from rotary to cable tools. Empire's test logged the top of the lime at **1644 feet, with a surface elevation of** 2564 feet.

Responding with an initial flow of 600 barrels of oil after shot, the wildcat test of Bain et al on the J. L. Moore land in southeastern Hutchinson County, lacked gas pressure to maintain the flow and will be placed on the pump. This well is several miles southeast and north of oil production, and opens new territory for development. The well is located in the southwest corner of the northwest quarter of section 125, block 4. I. & G. N. survey, and logged the top of the lime at 2410 feet, with a surface elevation of 3166 feet. A shot of 360 quarts was placed in sandy-lime pay at 3012-3125 feet. Marland's wildcat test on the Carver ranch in northwestern Hutchinson County developed salt water when deepened to 3270-97 feet, and is shut down at 3316 feet. Marland Oil Company is reported to have sold a half interest in its 640-acre Cal Merchant lease, located in the Prairie-Merchant section of Hutchinson County, to McMan Oil & Gas Company for a consideration of $800,000, of which one half was cash and the balance payable out of oil. McMan is also to drill seven free wells. This property is one of the best pieces of undeveloped acreage held by Marland in the county, and has two flowing wells making 600 barrels daily, and a third test drilling in at 2836 feet. Prairie's Merchant 3-B was completed early last week flowing 2540 barrels initial in broken lime pay at 2705-49 feet, and Merchant 2-B was swabbing 100 barrels daily while awaiting shot in broken lime pay at 2698-2740 feet and 2760-89 feet.

Gulf's E. B. Johnson 15, located on proven acreage in lower Hutchinson County, flowed 795 barrels of 37.8 degree gravity oil early this week from lime pay at 2903-09 feet, while trying to drill by tools. Gulf's Johnosn 14 has been completed flowing 80 barrels of 38 degree gravity oil at 2873-2927 feet.

Field work in the Texas Panhandle is declining rapidly, due to operators shutting down drilling tests, and placing recently made locations on the idle list. This action has resulted in rigs being stacked, and field men men thrown out of employment.

PANHANDLE OPERATIONS

Amarillo, Texas—Condensed summary of field operations in the Texas Panhandle district at the close of the week ending April 2 is listed below by counties, with comparative totals for the previous week:

	Completions	Active Tests	Shut Downs	Rigs and Derricks	Locations	Totals
Armstrong Co.	..	..	1	..	..	1
Briscoe Co.	..	1	..	..	1	2
Carson Co.	4	64	6	4	..	78
Castro Co.	..	2	..	1	..	3
Childress Co.	..	1	1	..	..	2
Cochran Co.	..	..	1	..	..	1
Collingsworth Co.	1	2	..	..	1	4
Dallam Co.	..	1	2	..	..	3
Deaf Smith Co.	..	1	..	..	..	1
Donley Co.	..	1	..	..	..	1
Gray Co.	1	40	10	5	4	60
Hansford Co.	..	1	1	..	..	2
Hartley Co.	..	2	5	..	..	7
Hemphill Co.	1	..	2	..	..	3
Hutchinson Co.	15	150	31	35	6	237
Lipscomb Co.	..	2	1	..	..	3
Lubbock Co.	..	..	1	..	..	1
Moore Co.	1	5	4	..	..	10
Motley Co.	..	..	1	1	..	2
Ochiltree Co.	..	..	4	1	..	5
Oldham Co.	..	1	..	..	..	1
Parmer Co.	..	1	..	..	..	1
Potter Co.	..	..	2	1	..	3
Randall Co.	..	..	1	..	..	1
Roberts Co.	..	1	3	3	..	7
Sherman Co.	..	1	..	..	4	5
Swisher Co.	..	..	..	..	1	1
Wheeler Co.	2	22	6	5	2	37
Totals	25	299	84	56	19	483
Totals prev. week.	25	308	85	70	28	516

Begin Tanker Movement From Lockport

Lake Charles, La.—Vacuum Oil Company's deep water loading facilities at Lockport field, five miles northwest of Lake Charles, was opened April 5, when the company's tanker Paulsboro, 73,000 barrel capacity, loaded the first Lockport crude to be moved direct from the field to the refinery at Paulsboro, N. J.

Lockport crude has been moved by barge through the Calcasieu River and Intercoastal Canal to the Texas City terminal of the company, and thence by tanker to Paulsboro. The loading of the tanker April 5 marks the beginning of direct shipments of the company.

Lockport field, which is operated exclusively by the Vacuum, is now producing around 6400 barrels daily. Average shipments from the field by Vacuum can be estimated by shipments of February, 352,510 barrels, and March, 383,566 barrels.

A party of Vacuum men and guests went aboard the Paulsboro at Port Arthur, early Tuesday morning. The tanker arrived at the new Vacuum docks shortly after one o'clock in the afternoon, and began loading Lockport crude as soon as connection could be made. The party aboard the Paulsboro was met by officials of the Chamber of Commerce of Lake Charles, and of the city, who presented Captain Pope with a room full of flowers.

Vacuum officials and guests aboard the tanker were: Ernest Smith, manager of steamship department; W. C. Thomas, general manager of drilling and production; William A. Vinson, chairman of the Texas-Louisiana operating committee for the company; William B. Sutton, head of the land department; William Hastings, superintendent of the company's Texas City plant; W. L. Conover, of Collins & Conover, Houston; Col. Thomas Fitzgerald Porter, district Judge of Calcasieu Parish; S. W. Plauche, "M. S." attorney of Lake Charles, and Ray L. Dudley, publisher *The OIL WEEKLY.*

Humble Starts Second Boggy Creek Test

Houston.—Humble Oil & Refining Company's Earle & Ragsdale 2, located 832 feet north and 600 feet east of the Boggy Creek discovery well, was ready to spud in Tuesday of this week. The discovery well is shut in after getting a thorough test for oil and gas production, making 1730 barrels and slightly less than 10,000,000 cubic feet of gas with a gasoline content of two gallons per thousand cubic feet.

Humble last week purchased 13 acres of land on the John Ware property one mile southeast of the discovery well as a tank farm site, and preparations are under way now to erect two 55,000-barrel tanks as the first unit of the group to be erected when steady production is started. A battery of six 1,000-barrel tanks has been completed on the Elliott property, and such a battery is being built on the Earle & Ragsdale land to the north.

The Humble has purchased 30 acres of land at Price's Switch on the Missouri Pacific Railroad, nine miles southwest of Jacksonville, which is expected to be used for the building of a loading rack. A two-inch line used by the Humble for moving fuel oil from Cuney Switch on the Missouri Pacific Railroad, is now idle but might later be used for moving oil to the railroad.

Mid-Continent Producers Expect Another Cut

(Continued from page 23)

Three pipe line gathering systems serving the Church & Fields area, located in the Crane County section of West Texas, are making ready to handle the first peak production from this flush field, while producers are crowding tank building crews to make deliveries on large steel tanks being erected in the field proper to accommodate production that exceeds pipe line runs. This field is scheduled to reach its first peak production late this month with a daily output of more than 50,000 barrels of 32-33 gravity oil from about 60 wells. The field averaged 512 barrels daily per well during the past week from 31 flowing and pumping producers, while a half dozen or more of the largest producers in the field were pinched for lack of pipe line and storage facilities. A new eight-inch line will be in service next week, and will add about 20,000 barrels to the present pipe line outlets. Other than the crude handled by Humble's West Texas trunk line, the entire production must be marketed via tank cars, or stored in the field.

Declining production and curtailed field work are reflecting a firmer tone in the Texas Panhandle crude market, and a few independent buyers of crude in this district are offering five cents premium above the posted price of 85 cents per barrel for Carson and Hutchinson crude. These premium offers apply to crude purchased for tank car movement from the district, and for storage against better crude prices.

The spot crude oil supply in the North Texas district is falling short of keeping pace with the demand from local refineries, and premium offers are becoming more general, with bonuses ranging from 10 to 25 cents per barrel above the posted price. North Texas refiners have fared better by the triple reduction of crude prices, and until recently were receiving a price for fuel oil that was slightly above cost of the same quantity of high gravity crude. However, the fuel oil market price has dropped about 30 cents per barrel within the past ten days, owing to a local refiner selling short on this product, and causing a sharp break.

California Cut

Standard Oil Company of California has cut crude one cent on heaviest refinable crudes and made proportionately heavier cuts on higher gravities, ending with 1.36 per barrel cut in lightest grade of 42 degree gravity refinable crude.

California production is in excess of the requirements of markets tributary to the State. 58,000 barrels per day is shut in.

Conditions east of the Rockies have been reflected in sharp declines in crude and finished product prices. The great demand for tanker tonnage has resulted in high charter rates. Flush production in California will have to be stored in California.

Seal Beach wells now drilling should normally be completed about the same time. Combined initial production of these has been estimated at from 50,000 to 80,000 barrels.

Second and Deeper Sand In Cook County

Wichita Falls, Texas—The Muenster shallow oil field in Cooke County added a second and deeper oil horizon early this week, when the Oil Operators Trust's Kleiss 2 swabbed 30 barrels oil per hour from sand at 1584-91 feet, with a total depth of 1594 feet. This well failed to make a pumper in regular sand horizon at 1300 feet, and is rated as a 300-barrel producer in the new sand. The gravity of the oil is considerably lower than the production in the original sand.

A second commercial gas well for Cooke County was completed during the past week, when the Lynch-Stahl & Burris' Walling-Morty 1 gauged 6,250,000 cubic feet of dry gas with a rock pressure of 390 pounds in sand pay at 1171-91 feet. This gasser is a south offset to Magnolia's discovery well of the field in the J. Clark survey, but has a greater volume of gas and a better rock pressure. A market will be available for this gas when production justifies the building of a line to nearby towns. Murchison-Fain & McGaha's wildcat discovery well on the Otto land, W. C. Davis survey pumped 30 barrels high gravity oil during the first 24 hours from sand at 963-70 feet, thereby establishing the fourth wildcat hit for Cooke County so far this year. The Fain-McGaha Oil Corporation is drilling a west offset to this shallow pumper. Three offsets are being started around the C. C. Lanier & Chapman Oil Company's 200-barrel discovery well on the Montgomery land, T. J. Hutchinson survey, including one each by The Texas Company and the Kewanee Oil & Gas Company. The owners of the discovery well are drilling an east offset, and plan two other locations. Humble is running the oil.

Humble's Austin County Well to Be Put On Air

(Continued from page 38)

deepening at 1070 feet in a sand with no show.

Humble has made two new locations at Raccoon Bend to be drilled in the near future. Deutrich 1 is located 400 feet west of the center of the east line of the W. C. White Survey. Woodley 1 is located 600 feet west of the east line and 500 feet north of the south line of the William Harvey survey. Decision has not been made as to whether they will be drilled with steam rigs using gas from the Walton well or with gasoline driven rigs.

Aside from the three tests being drilled with steam rigs, burning gas for fuel, the Humble is using three Waukesha portable drilling engines, including two 50 horsepower and one 100 horsepower motors.

The area where the presence of both oil and gas has been proven covers a strip more than a mile long and a half mile wide. Topography of the country surrounding this area is rolling sand hills of an average elevation of between 145 and 155 feet. The territory is cut up in farms ranging from 25 to more than 400 acres, and thickly populated with tenant farmers. For many years the region has been among the most prolific farming country in the State. Approximately 30,000 acres of this land was blocked solidly by Harry Pennington, independent operator, who was later joined in the wildcatting project by H. T. Staiti, independent, and late last fall by the Humble which took a one-half interest in the leases and took charge of operations. Humble has constructed a warehouse near the tests, about six miles from Hempstead, nearest railway center.

Church and Fields Peak in April to Be Short Lived

(Continued from page 39)

owner of the discovery well and a south offset about ready to drill in. The discovery well is flowing 380 barrels daily, and Gulf's well is pinched to less than 500 barrels daily. Southern's Hendricks 1-C is drilling plug after cementing 5⅝-casing at 2832 feet, and Hendricks 2-C is standardizing after cementing 8¼-inch casing at 2553 feet. The latter test will be shut down on top of the pay in accordance with the shutdown agreement among operators reported last week. Independent's Hendricks 1, located west of the discovery well, is drilling below 2500 feet with no salt reported on the log, thereby adding to the belief that the oil production is coming from a faulted structure.

The Illinois Pipe Line Company is winding up the work of laying a six-inch line from the Yates field, Pecos County, to McCamey, and will be running oil shortly from wells owned jointly by Mid-Kansas and Transcontinental. The Illinois Pipe Line Company has contracted to deliver 5000 barrels daily to Humble at McCamey, and the surplus will also likely go to Humble in view of the plans of the latter company to build a ten-inch trunk line from McCamey to Corpus Christi. Humble has a combination 8 and 10-inch line from McCamey to Kemper station, Reagan County, and a double eight-inch from the latter point to Comyn station, Comanche Couinty. The new trunk line will take a more direct route to the Coast.

Daily average production in the Church & Fields area, Crane County, during the week ending March 29 is listed below by companies, with the total number of producing wells:

Company—	No. Wells	Production In Bbls.
Tidal Oil Co. et al....	5	4,055
Eastland Oil Co. et al..	1	3,375(*)
Simms & Atlantic	4	3,120(*)
Gulf Prod. Co.	2	2,375
Humble O. & R. Co. ..	2	1,640(¶)
Magnolia et al	10	695
Prairie O. & G. Co. ..	6	485
Geo. Church & Fields..	1	120(¶)
Totals	31	15,865
Totals previous week ..	30	14,210
GULF-McELROY		
Gulf Production Co....	15	11,565

(*) Production pinched.
(¶) Completed during week.

Hunton Lime Production Found in Pottawatomie County

Test 12 miles from Earlsboro makes 90 barrels an hour when partly opened Tuesday

By ROYE MUNSELL
Staff Representative

Tulsa, Okla. (By Wire).—The Pierce Petroleum - Wrightsman Petroleum and Oil Lease Purchasing Company's Davis 1, in the northwest of the northeast of the northwest of section 30, township 7, range 4, made 90 barrels an hour when opened up part way Tuesday to test its potential output. The gate was not opened wide, and this figure was made with the well slightly pinched in.

The well is again shut in completely and will be held back until facilities are provided for caring for the oil. Three locations have been made around the well for tests to be drilled immediately.

TULSA, Okla.—The Pierce Petroleum Corporation-Wrightsman Petroleum Corporation and Oil Lease Purchasing Company's wildcat test in Pottawatomie County, near Pearson, which blew in during the week and flowed more than 3000 barrels daily for three days before it could be put under control, is to be turned wide open and allowed to produce for a few hours to see what it will do.

This test is in 30-7-4, three quarters of a mile south of the Wrightsman Talley test, the nearest production, and 12 miles from the Earlsboro pool on the county line.

Hunton lime was found 169 feet higher in the new well, it is believed. No wire line measurement has been made but it is supposed that the Hunton pay has just been tapped. As it now stands, it is the largest Hunton producer in Oklahoma, and will probably open up another pool of large proportions.

The Pierce interests are operating the property which comprises a large block on which the well is located. Pierce has around 800 acres and an interest in 160 acres additional.

Some Let-Up at Seminole

Operators in the Seminole district are beginning to show a tendency to hold back new work. Last week there were only 11 new locations, as compared with 18 for the previous week. In the entire Seminole City field of 96, only one new location was made. The Searight district reported no new work starting. The Bowlegs, or Eight-Six district, had six new locations and Earlsboro, four.

There is also a tendency on the part of operators to hold up the development of other new districts. An instance of this is where the Prairie Oil and Gas Company decided to shut-in its well in the southwest corner of the northeast of 24-9-5, which had a show for good production in the Wilcox sand at that location, if other operators with offset leases would hold off. This well is estimated good for 200 barrels an hour and is situated in a rather strategic position about midway between the Earlsboro and Seminole City fields.

It is reported that the operators who found Hunton lime production southwest of Seminole in 19-7-4, will take the same course of action in regard to further exploitation of that district.

Production from Seminole is being kept up to around 330,000 barrels daily. The first effect when the development of the Bowlegs field had got well under way was mounting production from the district by increasing the total output by what the new wells were making. There now seems to be an inclination on the part of operators to hold back Seminole City production and exploit Bowlegs instead. The wells at Bowlegs flow natural while those in Seminole City field must be produced with the gas-air lift.

Lift Method Flexible

The gas-air lift has demonstrated itself to be a very flexible means of control. By the manipulation of the amount of air put through the well the output can be controlled to a high degree of efficiency. To stop a well completely, it can usually be effected by merely taking it off pressure altogether.

The Bowlegs district was making 40,000 barrels daily, Monday. The 18 wells now drilling below the 3700-foot horizon can be expected to at least double this figure in short order. There is a total of 136 wells drilling in that district, divided as follows: 48 less than 2000 feet, 45 between 2000 and 3099 feet, 25 between 3100 and 3700 feet and the 18 below 3700 feet. There are 25 new rigs ready to go and six locations staked.

Two locations north of the Bowlegs discovery well, the Indian Territory Illuminating Oil Company has drilled in its Goforth 5 for 130 barrels an hour initial from the Wilcox sand. The location is the northwest corner of the southwest of the northeast of 15-8-6. The Wilcox sand was picked up at 4132 feet, and drilled to the total depth of 4149 feet.

The Gypsy Oil Company's Walker 7, in the northeast of the southwest of 15-8-6, which was apparently running low, flowed 3186 barrels when drilled in the Wilcox sand to the total depth of 4351 feet. As the boys put it, "it was running low, all right, but not low enough, you see."

The Indian Territory Illuminating Oil Company's Livingston 2, in the southwest of the southeast of the northwest of 15-8-6, came in for a producer of 5659 barrels in the Wilcox sand between 4121 to 4134 feet.

Carter Gets Well

The Carter Oil Company Bowlegs 1, in section 15, made 5800 barrels when deepened to 4101 feet in the Wilcox pay.

The Sinclair Oil and Gas Company's Adams 1, in the northeast of the southeast of the northeast of section 22-8-6, is swabbing 400 barrels from Wilcox topped at 4302 feet.

The Bowlegs pool is still very much in the initial stages of its development and promises, apparently, to take equal rank eventually with the first large field which was developed in township 9, just to the north

In Earlsboro, the Independent Oil and Gas Company topped the Earlsboro sand at 3568 feet in its Bruner 3, in the southwest of the southeast of the northeast of 10-9-5. At the present total depth of 3578 feet the well is swabbing 53 barrels daily.

The Magnolia Petroleum Company's Seay 1, in the southeast of the southwest of 12-9-5, is swabbing 125 barrels from 3432 feet.

The Phillips Petroleum Company's Lamar 3, in the northwest of the southwest of the southeast of 9-9-5, is running the five-inch casing 4420 feet in the Viola lime.

An apparent failure is the Roxana Petroleum Corporation's Strain 1, in the southeast of the southeast of the northeast of 17-9-5. The Wilcox was topped at this location at 4426 feet. The

well has been drilled to a total depth of 4431 feet with no oil or gas reported showing.

Two additional wells in the Seminole City field of Nine-Six which are reported making water are the Roxana Petroleum Corporation's Lasley 1, in the northeast corner of the southeast of the northeast of 22-9-6, and the Empire Gas and Fuel Company's Wilson 3, in the northwest corner of the northeast of 34-9-6. Both wells are edge wells on the west side of the field.

Water on West Side

Water has only been found at scattered locations on the west side of the field. On this side, it might be pointed out, water has never shown up to the extent that it has on the east side, where the bulk of the wells are making it in more or less quantities.

With the addition of a new 10-inch line the Seminole district has its pipe line facilities augmented by 30,000 barrels daily. This new 10-inch line which has been built into the field from Council Hill by the Oklahoma Pipe Line Company, gives the field a pipe line outlet working capacity of between 260,000 and 275,000 barrels daily, which is on the whole, adequate. Between 25,000 and 30,000 barrels are being shipped out daily in tank cars. The field storage is sufficient to the balance of the field's output until it is augmented by the tank building program which is now under way.

Additional shows are being reported from time to time by the wildcats being drilled in Logan and Kingfisher Counties. Besides the Texas and Pacific Coal and Oil Company and Franklin Oil Association, Sy Moore 1, in the southwest corner of the northeast of the southeast of 28-18-4w, Logan County, commercial production has not been found to date in that area. This well which found a sand at 4059 feet is producing 56 barrels of 43 gravity oil daily on the pump.

It was this well that started in earnest the activity in Logan and Kingfisher Counties. At present there is almost a score of tests under way.

In a short time two additional tests will be started near the original T. P. well, it is announced. One will be a south offset and the other will be drilled one mile to the northwest in the northeast corner of 29-18-4w.

In the same township the Franklin Oil Association already has shown for one and a half million cubic feet of gas in a 3000-foot gas sand picked up by its test in the southwest corner of the southeast of 16-18-4w.

Oil in the Hole

The Pawnee Petroleum Company and J. V. Bailey, Lovell 1, in the southwest corner of the northwest of 9-18-4w, have oil in the hole from sand topped at 4003 feet. The operators are tied up with some difficulty in getting cement to set.

Bryan & Emery have re-cemented the casing to effect a shut-off in their Scott 1-A, in the northwest of the southeast of 33-19-4w, and ready to test the show they had from sand topped at 4039 feet and drilled in to the total depth of 4040 feet. Some time while swabbing to test the previous shut-off which failed, 1000 feet of 41 gravity oil rose in the hole, it is reported.

The Roxana Petroleum Corporation is drilling at 5400 feet in its McCullough 1, in the southwest corner of the northeast of the southeast of 30-19-4w.

The Carter Oil Company test at Roger 1, in the southwest corner of the northeast of the southwest of 32-19-3w, is drilling below 4800 feet.

The rig of the Freeland and Haley, Quier 1, in the southwest corner of the southeast of 33-18-4w, which was destroyed by fire, has been replaced with a steel rotary derrick preparatory to starting up again. When the rig was destroyed the test was down to 1900 feet.

The Pawnee Petroleum Company and Joe Bailey are drilling ahead at 5650 feet in their Baker 1, in the northeast of 5-17-1w, eastern Logan county. This test had a good show for both oil and gas at 5540 feet but the hole is being carried on down. This is the deepest test in Logan county. The other tests will in many cases be made deep tests also, it is reported, unless commercial production is found at comparatively shallower depths.

T. B. Slick is reported to have taken over the old Blackford Oil Company block in 16-1w, southeast of Guthrie, where in the center of the south line of the north half of the southeast of section 28, the Blackford Rair 1, has been shut down for a long time at the total depth of 1600 feet.

The T. B. Slick Woods 1, near Coyle, in the southwest corner of the southeast of 28-17-1e, which created not a little excitement a few weeks ago with a good show in sand at 4751 feet, is underreaming the 5 3-16 casing through the sand.

About two miles north of the town of Coyle, T. B. Slick has a new rotary rig up for a test in the southeast corner of 20-17-1e.

In township 18, the Twin State Oil Company is drilling at 2987 in its Gieber 1 test in the northeast corner of the northwest of the northeast of 23-18-1e.

The Bu-Vi-Bar Petroleum Corporation's School land 1, in the center of the southwest of 12-15-1w, is drilling at 1110 feet.

Kingfisher County

In Kingfisher County, which lies to the west of Logan County, W. J. Wylie, Monohan and others, have completed a 120-foot rotary rig in the center of a 10,000-acre block, where they will drill their Johnson 1, in the center of the northwest of 26-16-5w.

T. B. Slick is reported to have acquired by purchase the Sam Wilkinson block of approximately 4000 acres, and is contemplating drilling a test well in the center of the block, which would be about the southwest corner of 23-15-5w. This block is south of the Wylie block just mentioned.

Ramsey Brothers are drilling below 2550 feet in their test well in the northeast corner of 25-17-5w. This test is on the old Carson-Mallory block of around 3500 acres.

The Bu-Vi-Bar Petroleum Company's 5000-foot test on school land in the southwest corner of the southeast of the southeast of 16-19-5w, is running the 5 3-16 pipe at 4800 feet.

In Oklahoma County, just to the south of Logan County, the Franklin Oil Association will drill in the southwest corner of the southeast of 21-14-4w.

This wildcat play centered around Logan county is one of the most intensive carried on in the state for some time.

Program Announced For Gas Meet at Dallas

Dallas, Texas.—Plans are practically complete for the April 12-13 meeting of the Southwest division of the Natural Gas Association of America at Dallas, according to announcement of George McQuaid, secretary of the association. Many papers covering problems now facing gas producers are scheduled to be presented at this meeting.

The program, which is subject to slight changes, is as follows:

Address of Welcome—J. W. Everman, Supervisor of Utilities, City of Dallas.

Response to Address of Welcome—E. Brown, President Magnolia Petroleum Company.

Remarks by Chairman—N. C. McGowen, The Palmer Corporation, Shreveport, La.

Paper: The Trend of Gas Measurement—E. R. Clark, Oklahoma Natural Gas Corporation, Tulsa.

Paper: Building the House Heating Load—Floyd M. Rosenkrans, Gas Service Company, Kansas City, Mo.

Paper: Pipe Line Flow Formulae—E. L. Rawlins, United States Bureau of Mines.

Paper: Cleaning Gas in Transportation Lines—Walter Reid, Consulting Engineer, Dallas.

Question Discussions

Cooperation With Regulatory Bodies—Led by B. P. Stockwell, Oklahoma Corporation Commission.

The Merchandising of Gas—Led by Chester May, Lone Star Gas Company, Dallas, Texas.

Pipeline Corrosion—Led by John Crout, Gas Service Company, Kansas City, Mo.

Methods of Storing Natural Gasoline—Leader of discussion to be supplied.

Report of chairmen of standing committees and discussion of activities of committees, led by the several chairmen.

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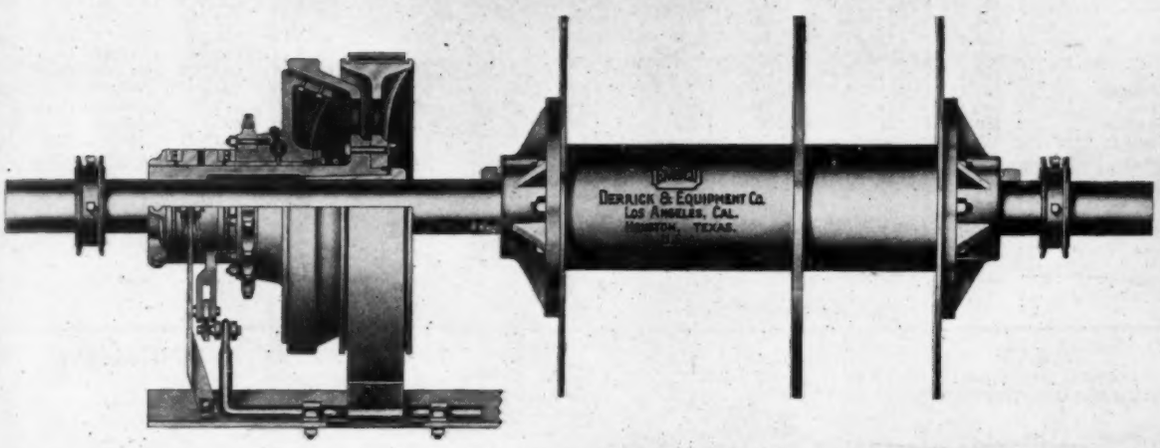

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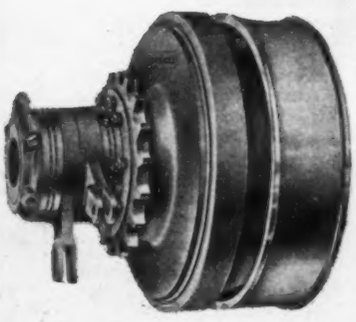

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United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision;

Month—	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Ark.	Eastern States	Rocky Mountain	California	United States Ave.	Gross
January	449,370	100,130	260,180	90,290	43,990	181,190	101,000	102,300	621,300	1,946,980	60,356,380
February	450,037	101,937	245,989	91,550	45,090	169,676	99,000	98,412	605,250	1,909,637	53,469,836
March	454,762	103,300	260,262	92,712	48,787	164,312	97,625	102,325	604,500	1,929,562	59,816,422
April	467,175	101,825	263,612	88,812	50,562	169,824	100,875	106,675	600,000	1,947,387	58,421,610
May	463,750	105,690	277,700	94,550	58,150	175,430	105,700	112,300	602,720	1,995,990	61,875,690
June	456,450	107,637	302,187	89,912	60,412	167,887	106,250	112,925	606,925	2,013,187	60,395,610
July	456,920	110,320	336,600	114,760	57,460	161,870	104,700	108,520	613,940	2,062,470	63,936,570
August	465,137	111,600	381,550	161,237	56,787	157,375	108,350	110,737	609,725	2,162,662	67,042,522
September	465,387	113,037	402,212	175,512	56,575	154,037	110,125	105,825	598,100	2,180,862	65,425,860
October	497,120	114,720	439,490	170,350	58,200	149,810	109,500	99,060	611,600	2,259,850	70,055,350
November	551,225	115,425	475,987	176,425	56,575	144,100	111,125	93,537	641,325	2,365,475	70,964,250
December	561,012	118,950	483,250	181,263	55,137	139,250	110,375	87,650	659,925	2,396,112	71,279,472
January, 1926	591,570	117,490	460,910	176,330	53,030	132,648	108,100	83,910	655,660	2,385,650	73,955,150
February, 1927	683,775	116,200	479,175	154,975	52,850	128,362	107,250	85,237	642,775	2,455,612	69,157,136
March 5	701,400	116,400	478,900	154,150	52,550	125,650	106,000	83,400	645,600	2,464,050	.....
March 12	708,850	116,350	475,250	154,850	52,400	124,050	105,000	85,800	638,500	2,461,050	.....
March 19	706,900	115,000	471,150	154,400	49,750	124,950	104,000	91,700	644,600	2,463,450	.....
March 26	711,600	115,700	476,300	153,650	51,100	124,000	103,000	87,900	638,700	2,461,950	76,341,375
April 2	724,650	116,150	474,350	157,300	51,800	123,900	104,500	87,950	637.300	2,477,900	.....
Increase	13,050	450	.....	3,650	700	.....	1,500	50	.....	15,950	.....
Decrease	.....	.....	1,950	.....	.....	100	.....	.....	1,400	.....	.....

TEXAS

(Outside Gulf Coast)

PANHANDLE DISTRICT

	Apr. 2	Mar. 26.
Hutchinson County	104,100	106,450
Gray County	7,850	8,200
Carson County	7,700	7,550
Wheeler County	2,750	2,000
Others	50	50
Totals	122,450	124,150

NORTH TEXAS

Burkburnett	13,050	13,250
Electra	14,850	15,000
Iowa Park-KMA	4,200	4,350
Wilbarger	13,600	13,800
Archer County	30,250	30,500
Clay County (Petrolia)	800	800
Baylor County	100	100
Montague and Cooke Cos.	13,750	13,500
Totals	90,600	91,300

WEST CENTRAL TEXAS

Stephens County	9,900	9,900
Eastland-Desdemona	6,300	6,200
Brown County	35,550	35,100
Coleman County	1,650	1,650
Callahan County	5,000	5,100
Shackelford County	13,700	13,900
Young County	7,950	8,000
Throckmorton County	3,700	3,700
Jack County	600	650
Palo Pinto County	2,100	2,200
Jones County	3,000	3,100
Mitchell-Scurry Cos.	4,300	4,250
Howard County	2,200	2,250
Reagan County	26,300	27,550
Crane-Upton Counties	50,500	48,500
Crockett County	1,250	1,400
Pecos County	4,050	5,000
Others	3,100	2,500
Totals	181,150	180,900

EAST CENTRAL TEXAS

Mexia	11,600	11,000
Currie	650	650
Richland	950	950
Wortham	3,900	4,000
Corsicana-Powell	19,650	19,750
Nigger Creek	5,950	5,900
Totals	42,700	42,250

SOUTHWEST TEXAS

Luling	18,150	18,350
Lytton Springs	2,300	2,350
Somerset	1,200	1,250
Laredo District	15,100	15,050
Piedras Pintas	50	50
Others	650	650
Totals	37,450	37,700
T'ls Tex. (Outside Gulf Coast)	474,350	476,300

TEXAS GULF COAST

West Columbia	10,300	10,050
Damon Mound	950	1,050
Big Creek	4,150	4,800
Boling	1,700	1,750
Blue Ridge	3,200	3,250
Pierce Junction	8,750	7,950
Humble	3,900	4,000
Goose Creek	7,750	7,400
South Liberty	3,800	3,550
Hull	16,000	16,250
Saratoga	1,200	1,150
Batson	1,400	1,550
Sour Lake	5,050	5,100
Spindle Top	60,900	58,750
Orange County	5,000	5,100
Others	6,500	5,900
Totals	140,550	137,600

OKLAHOMA

North Braman	6,100	6,300
South Braman	3,850	4,100
Blackwell	3,950	4,000
Hubbard	7,600	5,950
Thomas	1,550	1,700
Garber	17,400	17,600
Tonkawa	23,050	24,250
Burbank	45,550	45,950
Osage (outside Burbank)	35,250	35,250
Watchorn	2,750	2,700
Cushing	21,250	21,250
Yale Jennings	11,900	11,950
Davenport	3,550	3,550
Bristow Slick	27,300	27,300
North Okmulgee	17,250	17,250
Lyons Deaner	4,400	4,400
Stroud	1,450	1,500
Cromwell	13,400	13,500
Papoose	7,350	7,450
Wewoka	18,500	17,750
Duncan District	6,750	6,750
Earlsboro	36,350	36,300
Graham	8,400	8,500
Fox	1,800	1,800
Healdton	14,700	14,700
Seminole	294,700	281,750
Hewitt	9,900	9,950
Scholem Alechem	14,150	14,200
Others	64,500	63,850
Totals	724,650	711,600

CALIFORNIA

Seal Beach	26,300	26,500
Sante Fe Springs	44,500	44,000
Long Beach	92,000	92,500
Huntington Beach	75,000	76,000
Torrance	24,000	24,500
Dominguez	17,500	18,000
Rosecrans	10,500	10,500
Inglewood	37,500	37,000
Midway-Sunset	89,000	89,000
Ventura Avenue	53,300	51,000
Others	167,700	169,700
Totals	637,300	638,700

KANSAS

Florence-Covert	1,900	1,900
Peabody-Ebling	3,850	3,850
Eldorado-Towanda	13,250	13,250
Augusta-Fox Bush	4,600	4,650
Rainbow Bend	2,450	2,450
Russell	3,200	3,250
Greenwood County	41,200	41,450
Churchill	16,500	15,600
Others	29,200	29,300
Totals	116,150	115,700

LOUISIANA

	Apr. 2	Mar. 26.
Homer	5,300	5,300
Haynesville	7,900	7,900
Caddo Light	10,300	10,100
Caddo Heavy	4,700	4,500
DeSoto-Red River	4,250	4,300
Elm Grove	650	650
Bellevue	1,600	1,650
Cotton Valley	6,100	6,100
Urania	11,000	10,600
Totals	51,800	51,100

LOUISIANA GULF COAST

Vinton	5,100	5,200
Lockport	6,450	5,550
Evangeline	950	950
Edgerly	1,200	1,150
Others	3,050	3,200
Totals	16,750	16,050
Totals Gulf Coast	157,300	153,650

ARKANSAS

El Dorado	6,200	6,200
Smackover Light	11,650	11,700
Smackover Heavy	98,250	98,250
Stephens	1,350	1,350
Nevada	1,700	1,750
Lisbon	4,550	4,550
Others	200	200
Totals	123,900	124,000

MOUNTAIN STATES

WYOMING

Salt Creek	44,200	42,900
Grass Creek	3,000	2,800
Elk Basin	950	900
Big Muddy	3,150	2,850
Lost Soldier	3,700	3,800
Rock River	3,000	3,000
Teapot Dome	1,350	1,100
Lance Creek	700	700
Others	2,450	2,650
Totals	62,500	60,700

MONTANA

Cat Creek	2,350	2,400
Sunburst	12,000	12,000
Others	200	200
Totals	14,550	14,600

COLORADO

Moffats (Craig)	2,200	2,250
Fort Collins	3,500	3,600
Florence	700	700
Others	950	1,100
Totals	7,350	7,650

NEW MEXICO

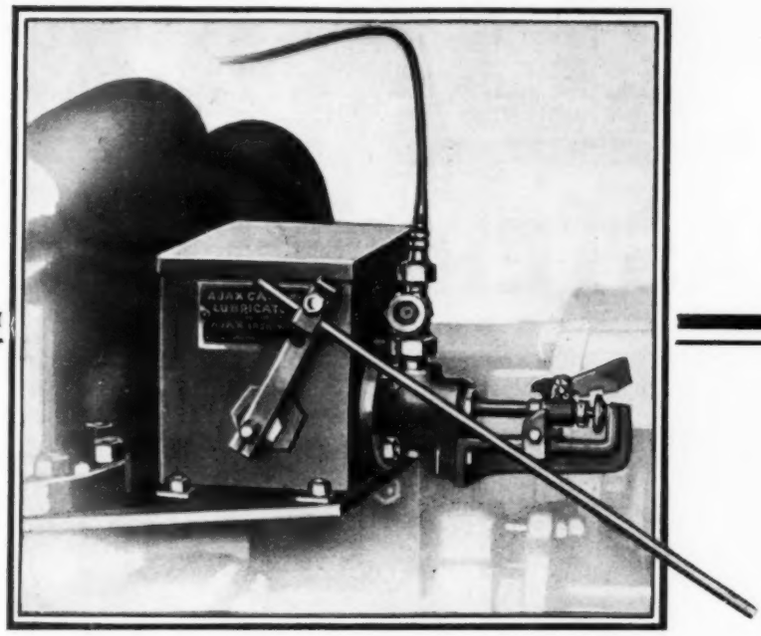
Table Mesa	250	250
Artesia	1,950	2,000
Hogback	800	800
Rattlesnake	550	1,900
Totals	3,550	4,950
Total Mountain States	87,950	87,900

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., and N. Y.	104,500	103,000

PRODUCTION SUMMARY

East of Rockies	1,752,650	1,735,350
United States	2,477,900	2,461,950



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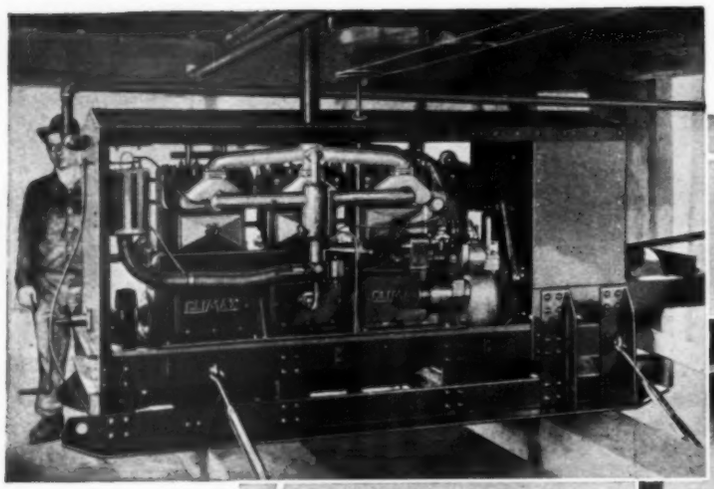

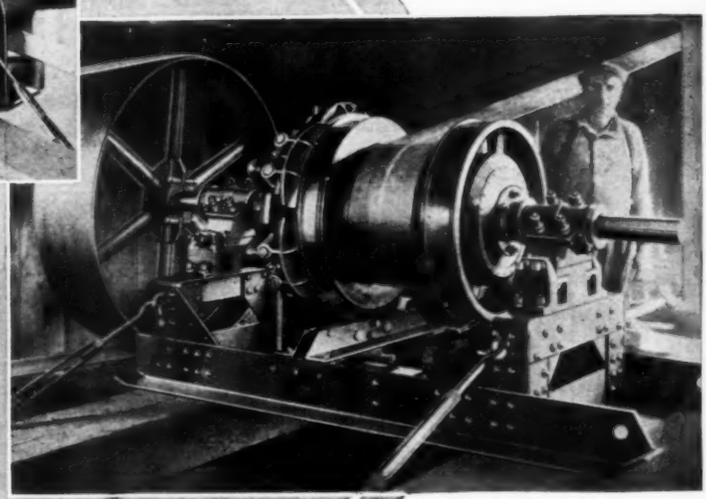

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THE NATIONAL SUPPLY COMPANIES

Leading Companies in Oklahoma

Comar Oil Company	3,195,739	3,267,195	2,983,853	2,897,062	2,901,672
Gypsy Oil Company	2,860,413	2,214,705	2,205,564	2,035,174	1,983,608
Magnolia Petroleum Company	2,407,450	2,804,452	2,959,952	2,588,864	2,212,618
Sinclair Oil and Gas Company	2,304,370	2,365,140	2,340,144	2,371,912	2,628,728
Prairie Oil and Gas Company	2,124,669	1,998,733	2,163,410	1,673,615	1,884,509
Carter Oil Company	1,788,594	1,837,051	1,540,694	1,575,120	1,814,064
Mid-Continent Petroleum Company	1,702,741	1,575,812	1,386,646	1,043,945	1,420,094
Phillips Petroleum Company	1,476,982	2,333,668	1,863,179	1,700,984	1,691,154
Amerada Petroleum Corporation	1,262,316	1,393,989	1,405,976	.....	.....
Pure Oil Company	1,165,938	.....	.....	.....	.....
Tidal-Osage Oil Company	1,132,262	.....	.....	.....	.....
The Texas Company	1,078,343	.....	.....	.....	.....

State total fourth quarter, 1926	40,179,962
State total third quarter, 1926	44,443,993
State total second quarter, 1926	43,312,839
State total first quarter, 1926	39,861,338
State total fourth quarter, 1925	43,065,054

Oklahoma Third Quarter Production Shows Loss

DURING the last quarter of 1926, Oklahoma production decreased 3,264,331 barrels as shown by figures furnished the state for taxation purposes. The total recovery amounted to 40,179,962 barrels as compared with 44,443,973 barrels for the third quarter.

It is enteresting to notice that at the end of the year the total output of the state was within 318,624 barrels of what it was at the end of the first quarter.

Due to Seminole, the first quarter of 1927 will show a notable gain.

Comar Oil Company kept its place at the head of the list of companies with more than a million barrels output, but lost about 790 barrels daily during the quarter as compared with the third.

Gypsy Oil Company jumped from fifth place to second in the list by gaining 645,700 barrels, with a total recovery 2,860,413 barrels.

Magnolia Petroleum Company dropped down one place with a shortage of 397,000 barrels against the third quarter, and this change forced Sinclair Oil and Gas Company to fourth place. Sinclair's production was only 60,700 barrels below the third quarter.

By gaining 125,936 barrels, Prairie Oil and Gas Company stepped up one place in the list.

Phillips Petroleum Company lost sufficient production to cause it to drop from fourth to eighth place.

Roxana Petroleum Corporation, Independent Oil and Gas Company, and Marland Oil Company, dropped from the list, but their places were taken by Pure Oil Company, Tidal-Osage Oil Company, and The Texas Company.

Amerada Petroleum Corporation kept above the million barrel mark, but was crowded down one place in the list on account of a decrease amounting to 131,673 barrels.

Company	Location	Barrels
Ashland Oil Co.,*	Tulsa	3308
Joe Abraham,*	Bristow	246
American Oil & Gas Co.,	Bartlesville	2747
R. L. & Andrew Adams,	Tulsa	3940
Thos. G. Andrews,	Chandler	2130
American P. L. Co.,	Wichita Falls	8,523
American Eagle Oil Co.,	Bartlesville	14.490
Arkansas Fuel Oil Co.,	Pittsburg, Pa.	29.292
All American Oil & Gas Co.,	Oklahoma City	2672
Atlantic Oil Producing Co.,	Dallas	110,615
Arthur Oil Co.,	Sisterville West, Va.	6758
Albion Oil Co.,	Tulsa	4685
American Oil Dev. Co.,	Pittsburgh	7789
Amerada Petr. Corp.,	Tulsa	1,262,316
Walter Andrews,*	Seminole	7132
Adams Royalty Co.,*	Chicago	1146
N. H. Anderson et al,*	Los Angeles	4502
American Royalty Petr. Co.,*	Tulsa	3122
Mrs. Grace V. Adams*	Nebraska City, Nebr.	1029
Atchinson Oil and Gas Co.,	Atchinson, Kans.	1720
Ark. City Ref Co.,	Arkansas City	2556
Almeda Oil Co.,*	Tulsa	3203
C. F. Adams,*	Ardmore	1746
Anglo Texas Oil Co.,	Tulsa	66.139
Berry Petr. Co.,	Tulsa	19.467
Chas. W. Bliss,	Tulsa	1159
Burke-Gries Co.,	Tulsa	3501
Geo. S. Bole,	Tulsa	19,064
Geo. S. Bole,*	Tulsa	4250
Earl Beard,	Bartlesville	3235
W. H. Bonsfield,	Auburn, Nebr.	3754
Black Gold Oil Co.,	Tulsa	4748
Berger Oil and Gas Co.,	Tulsa	6668
W. M. Bovaird,	Sapulpa	3291
Boggs Oil Corp.,	Oklahoma City	17,452
Frank M. Breene Trust Est.,	Tulsa	9288
Barnsdall Ref. Co.,*	Tulsa	6852
C. E. Burlingame,	Bartlesville	20.609
Baltic Operating Co.,	Bartlesville	4994
Business Men's Oil and Gas Co.,*	Marlow	1004
Beacon Oil Co.,	Bartlesville	9029
Barnsdall Oil Co.,*	Bartlesville	1708
Barnsdall Oil Co,.* (Production),	Bartlesville	765,239
Braden and Moore,	Tulsa	6894
Bissett, Lytle and Gray,*	Tulsa	4775
J. W. Bird and Wm. Hanley,	Bradford, Pa.	6940
Bay State Oil and Gas Co.,	Kansas City	20,280
A. C. Brown Oil Co.,	St. Louis, Mo.	10,830
Mrs. Mary F. Barrett,*	Austin, Tex.	2295
Britton-Johnson Oil Co.,	Tulsa	6968
L. G. Burkhalter,	no address	3312
J. G. Beard et al,	Duncan	15,416
H. G. Berstenshaw,	Nowata	2867
H. W. Blakeslee,	Nowata	1360
R. D. Brown, trustee,*	no address	2631
J. M. Burgess,	Duncan	5104
Barbara Oil Co.,	Oklahoma City	8047
Bermont Oil Co.,*	Bristow, Okla.	5336
Bernard B. Jones,	Washington, D. C.	1952
T. R. Bridgman,*	Ohio	1652
Burke Hoffeld Oil Co.,	Tulsa	9816
Baker and Strawn,	Tulsa	11,065
Myrtle Bumper,*	Ada	3466
W. H. Barnes and G. I. Van Dall,*	Bartlesville	4456
C. O. Buckles,*	Tulsa	1938
Burton Springfield Oil Corp.,	Tulsa	3169
Blackwell Oil and Gas Co.,	Blackwell	205,364
Blackwell Oil and Gas Co.,*	Blackwell	1981
E. B. Bell,*	Kansas City, Mo.	1016
Maurice S. Cook,	Youngstown, Ohio	2023
Stanley J. Campbell,*	Wichita Falls	2664
Carlock and Dexter,	Ardmore	2764
S. J. Caudill,*	Tulsa	1469
C. R. Colpitt,*	Collinsville	1552
H. D. McCallom, trustee,	Ardmore	4398
Cortez Oil Co.,	Tulsa	3169
J. A. Chapman,*	Tulsa	8287
Colene Oil Co.,	Oklahoma City	9298
Crump and Beard,	Duncan	20,710
Dillard H. Clark, Jr., Exec.,	Tonkawa	15,603
Coline Oil Co.,	Oklahoma City	73,875
Cushing Gasoline Co.,	Tulsa	2231
S. C. Canary,	Tulsa	6135
Cudahy Oil Co.,	Cleveland, Ohio	11,453
Cosden Oil and Gas Co.,	Tulsa	26,703
Lewis Clarke Petr. Co.,	Oklahoma City	3410
S. H. & M. L. Cowan,*	Pauls Valley	1933
Creo Oil Co.,	Tulsa	7312
Crosbie and Gillespie Gas Plant,		2681
Cameron Ref. Co.,	Ardmore	44,120
Crude Oil Royalties Co.,	New York City	11,019
Eugene Cox,*	Mena, Ark.	1560
Continental Oil Co.,	Tulsa	5024
M. L. Carr,	Okmulgee	3617
Chestnut and Smith Corp.,	Tulsa	3057
Crosbie, Sturm and Davis,	Tulsa	2566
Crosbie, Davis, Sloan and Sturm,	Tulsa	1361
Cumberland Petr. Co.,	Cleveland Ohio	16,423
Laura A. Clubb,*	Tulsa	13,943
Wm. Crossland, est.,*	Tulsa	3517
Commercial Drilling Co.,	Tulsa	5113
E. L. C. Hays,	Oklahoma City	13,834

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HARRISBURG

Forged Seamless Steel Oil Field Products

Company Location	Barrels
W. I. Cruce, et al,* Ardmore	4652
Comar Oil Co., St. Louis, Mo.	3,195,739
Carter Oil Co., Tulsa	1,788,594
Campbell Oil Co., Tulsa	3774
L. E. Crews, Heirs,* Enid	2311
Crews Oil and Gas Prod. Co., Enid	16,177
Commercial Drilling Co.,* Tulsa	1146
M. K. Clover and Est. of Neely Dec. St. Marys, Ohio	4124
W. S. Critchlow, Ardmore	8429
I. M. Clubb,* Kaw City	13,943
Champlin Ref. Co., Enid	79.254
Edw. B. Cox, et al,* Ardmore	15,712
W. E. Conner, Goteb	3193
H. W. Corey,* Bristow	1569
Daisy Bell Petr. Co., Ardmore	6261
W. L. Dixon,* Duncan	3316
J. C. Doneghy, Tulsa	2216
Duffield and Howard Oil Co., Tulsa	2583
Delaware Consolidated Gas Co., Tulsa	32,000
A. D. Davis,* Wilson	1069
J. J. Deaner, * Okmulgee	994
W. Y. Dilley, trustee,* Waurika	8672
V. E. Dillard, Ardmore	3956
Dalmon, Feagin, Gant and Tyer, Ardmore	6341
Darby Petr. Corp. of New York, Tulsa	4364
J. H. Dillard,* Ardmore	703,301
Dixie Oil Co., Inc., Shreveport, La.	447,007
Dillard H. Clark, Jr.,*	1013
P. C. Dings,* Chicago, Ill.	2825
J. D. Dwyer, Tulsa	48,879
Douglas Oil Co., Tulsa	6223
Howard Duffied and Berlin, Tulsa	4382
Deep Rock Oil and Ref. Co., Tulsa	60,914
Bertie DeSteigeuer,* Los Angles.	1588
H. O. Dixon, Bartlesville	5946
Darby Lynde Co., Tulsa	2924
Deep Fork Oil Co.,* Marietta, Ohio	1265
Devonian Oil Co., Tulsa	129,115
John Drappleman,* Ft. Stockton, Tex.	
W. H. Elson	2325
Exchange Oil Co., Tulsa	820
Elm Oil Co.,* Tulsa	2771
Elm Oil Co., (Production) Tulsa	17,960
T. T. Evans, Enid	3016
T. T. Evans,* Enid	12,412
Elliott and Smith, Tulsa	14,462
Enifisco Oil Corp., Tulsa	14,564
Echo Oil Co., Tulsa	13,415
Eagle Pecher Lead Co.	2158
Eagle Creek Oil Co., San Francisco.	2124
L. R. Ebling Co.,* Bartlesville	1195
Enterprise Transit Co., Titusville, Pa	3358
Empire G. & F. Co., Bartlesville	2921
Empire G. & F. Co., Bartlesville	93,294
Elk Oil Prod. Co.,* Tulsa	1549
Emery Bros., Bradford, Pa.	2797
Enterprise Transit Co., Titusville, Pa.	3358
J. W. Fleet, Est., Ada	6029
Flora Oil Co., Cement	4952
W. W. Fondren,* Houston Tex.	2295
M. C. French, Okmulgee	1974
Fern Oil and Gas Co., no address	9885
Flat Rock Oil Co.,* Tulsa	1107
Fifty Nine Osage Oil Co., Bartlesville	31,316
W. H. Franks,* Seminole	16,834
Finance Oil Co., Gowanda, N. Y.	19,554
A. Fallinson, Tulsa	3573
D. W. Franchot & Co., Tulsa	123,763
Ruth Fuel Co., Bartlesville	1451
Foster Petr. Co., Bartlesville	392,347
Foster & Davis, Inc., Bartlesville	8771
Fagar Oil and Gas Co., no address	8637
Fox Petr. Co., Ardmore	5777
Wirt Franklin, Ardmore	112,375
Wirt Franklin, (royalty) Ardmore	6241
Hinkle Fitzgerald and Westheimer, Ardmore	2723
D. C. Fitzgerald, trustee, Ardmore	7514
Graham Mineral Trust, Ardmore	2555
Edw. Galt,* Ardmore	1997
Galvez Oil Corp., Tulsa	15,482
C. O. Greggs, Ardmore	4196
J. H. Gaston,* Wichita	1076
Gilmer Oil Co., Ardmore	
Fred E. Gattespen,* Benson, Nebr.	19,630
N. T. Gilbert, Mgr., Tulsa	6869
Gilcrease Oil Co., Tulsa	246,601
S. B. Geiger,* Chicago, Ill.	2988
Gladys Bell Oil Co., Tulsa	24,515
Gypsy Oil Co., Tulsa	2,430,924
F. A. Gillespie and Sons Tulsa	28,871
Goldelline Oil Corp., Oklahoma City	5623
J. Wood Glass,* Nowata	3468
Grimes and Gillespie, Tulsa	23,281
Chas. W. Grimes,* Tulsa	994
Walter H. Gant,* Ardmore	
Walter H. Gant,* Ardmore	6830
N. T. Gilbert Receiver Cotton Belt Petr. Co., Tulsa	24,323
N. T. Gilbert, Rec. J. Glass, Tulsa	16,824
Mrs. W. B. Green, Exec., Oklahoma City	3787
Gardner Petr. Co., Tulsa	58,161
N. T. Gilbert, Receiver Jos. Glass, Tulsa	16,824
Gilliland Oil Co., Tulsa	25,934
Gates Oil Co., Ardmore	10,870
Mary L. Gordon, Beverly Hills, Calif.	3728
N. T. Gilbert and Jos Glass, Receiver Tulsa	32,200
Georgia Oil and Gas Co., Capon	3675
M. L. Glass,* Tulsa	1489
Glass and Haineau, Nowata	12,240
R. W. Getzendoner, Waxahachie, Tex.	4684
John B. Grieves, Terlton	18,737
Gled Oil Co.,* Tulsa	22,048
Gypsy Oil Co., Tulsa	429,489
Gray Oil Co., Tulsa	3148
Howard Bean Drilling Co., Amarillo.	1701
O. R. Howard, Tulsa	23,675
Henry Oil Co., Tulsa	7600
Home Gas Co., Cushing	9188
Est. Jake Hamon,* Ardmore	644
Holmes Oil Co., Tulsa	3782
Helena Oil and Gas, Tulsa	5333
Homaokla Oil Co.,* Oklahoma City.	9540
Homaokla Oil Co.,* Oklahoma City.	47,785
E. P. Harwell, Tulsa	8057
C. E. Holman,* Weslaco, Tex.	1188
Henderson Oil Co., Marietta, Ohio	3061
W. T. Hales, Oklahoma City	72,564
W. T. Hales,* Oklahoma City	1806
S. L. & W. L. Hernstadt,* N. W. City	2940
Home-State Oil and Gas Co.,* Seminole	45,937
Hamon and Colcord, Ardmore	11,182
R. E. Hay,* Covington	7562
N. M. Hancock,* Shreveport, La.	10,728
W. J. Harrington, Coffeyville, Kan.	2091
Harland Oil Co., Walco, Okla.	18,724
Arch H. Hyden,* Tulsa	637
Annetta Hoskins,* Aneheim, Calif.	1588
J. W. Henry, Tulsa	6442
J. V. Holt,* Oklahoma City	33,489
W. E. Hightower, trustee, Tulsa	7484
A. N. Hopkins,* Davenport	7057
Humble Oil and Ref. Co. Houston	294,505
Hillsdale Oil Co., Tulsa	2844
Hansen Oil Co., Tulsa	6941
W. H. Helmerick,* Tulsa	1217
S. W. Hilderbrandt,* Oklahoma City	2168
Harrino Oil and Gas, Ponca	4449
Est. of Jake L. Hamon, Ardmore	13,673
F. K. Kaskell, trustee, Bartlesville	4224
Hombro Oil Co., St. Louis, Mo.	6917
Hilltop Oil Trust, Ardmore	2516
Healdton Oil and Gas Co.,* Enid	4310
Healton Oil and Gas Production, Enid	32,530
Haskell and Son, Vinita	1464
Hewett Mineral Trust,* Ardmore	1691
Lewis Z. Harrison,* N. Y. City	5353
Interocean Oil Co., Tulsa	95,599
Indian Territory Illuminating Co.,* Bartlesville	31,766
Interstate Oil and Gas Co., Bartlesville	3159
Inola Oil Co., Tulsa	3260
Iron Mountain Oil Co., Tulsa	26,701
Iron Mountain Oil Co.,* Tulsa	2016
O. M. Ireland, Sapulpa	13,262
Indian Oil and Gas Co., Tulsa	27.634
L. D. Ingram,* Cleveland, Ohio	1660
Illinois Okla. Petr. Co., Duncan	3194
Investors Royalty Co.,* Tulsa	2853
Invader Oil Corp., Muskogee	3099
E. H. Jennings Bros., Pittsburgh, Pa.	1673
Leo Jacobs, St. Louis, Mo.	631,360
Johneda Oil Co., Tulsa	8488
Johnson Oil Ref. Co., Chicago, Ill.	6148
R. G. Jennings, Pittsburgh, Pa.	13,137
Jeanette Oil Co., Chelsea	3752
T. A. Johnson and Co., Okmulgee	3503
Roy S. Jordon,* Roosevelt, Utah	2334
Josey Oil Co., Tulsa	296,713
Jane Oil Co., Oil City. Pa.	2340
Kawfield Oil Co., Slick	4263
Sadie Kahn,* Ardmore	997
S. P. Kennedy,* Bradford, Pa.	2573
Kingwood Oil Co., Okmulgee	41,599
E. L. King,* Stillwater	1895
Jno. King, Receiver, Tulsa	17,490
Tom King, Okmulgee	9174
J. L. & S. G. Kennedy, Tulsa	1758
Frank Kell and Edw. Scheaffke, Electra Texas	1842
Keener Oil and Gas Co.,* Tulsa	2430
Keener Oil and Gas Co.,* Tulsa	46,428
Helen S. Walker King,* Orange, Cal.	4310
Helen S. Walker King,* Orange, Cal.	16,624
Geo. W. Kinney,* Tulsa	1067
Chas. Klein, trustee,* Tulsa	7364
Kay and Kiowa Oil Co., Tulsa	15,502
Kewanee Oil and Gas Co., Titusville, Pa.	435,718
Kirk Oil Co., Ardmore	15,964
Kestler Petr. Co., Tulsa	5280
Kestler Petr. Co.,* Tulsa	5522
Bessie D. Kiker,* Wewoka	4065
A. D. Kennedy,* Okmulgee	1815
Ernest L. Kistler, Tulsa	5547
Knupp Oil Co., Warren, Pa.	4599
Chas. Lee,* Lindsay	11,793
C. A. Ludey, Marietta, Ohio	2261
Lone Star Gas Co., Dallas, Tex.	22,261
E. A. Lnetz, Agt.,	10,888
Lane Oil Producing Co., Chicago, Ill	1780
Lawton Corp. Co., Oklahoma City.	1615
A. J. Lettit, no address	5674
I. B. Levy, trustee, Oklahoma City.	2884
Lawson and Whitehill, Nowata	2345
E. B. Lawson, Nowata	4587
Liberty Natl. Bank,* Oklahoma City	2748
T. E. Laselle, Ada	11,032
Liberty Natl. Bank trustee* Oklahoma City	2494
Laurel Oil and Gas Co., Tulsa	57.942
Link Oil Co., Tulsa	11,245
Link Investment Co.,* Tulsa	1171
Little Fay Oil Co., Tulsa	13,797
L. H. Love, Ardmore	2750
C. B. Lynch,* Tulsa	1995
Laege Oil Co., Bartlesville	4576
A. M. London, 666, Kans.	12,030
E. J. Lambert, Tulsa	1282
Lyons Petr. Co., Denver, Colo.	281,067
C. H. Lebow, Tulsa	20,066
C. H. Lebow, (royalty) Tulsa	6746
Park B. Lamberton, Tulsa	2629
Mfg. Trust Co., N. Y. City	
Mid-Cont. Royalty Corp.,* Tulsa	4774
R. J. Metcalf,* Ft. Worth	4915
R. B. Moss,* Ft. Worth	3247
Magnolia Petr. Co.,* Dallas	56,632
Magnolia Petr. Co.,* Dallas	16,481
Magnolia Petr. Co.,* Dallas	1473
Magnolia Petr. Co.,* Dallas	861
Magnolia Petr. Co.,* Dallas	132,162
Magnolia Petr. Co.,* (production) Dallas	2,199,841
Marland Oil Co., Ponca	626,699
Margay Oil Corp., Tulsa	72,598
Margay Oil Corp., (royalty) Tulsa	547
Mid-Kans. Oil and Gas Co., Findley Ohio	247,508
J. H. Markham, Jr., Tulsa	28,549
Magee and Stipe, Electra, Tex.	3203
Frank L. Moore, Tulsa	2743
Clint Moore, Est., Tulsa	19,795
Henry Mooney,* Los Animas	884
Midco. Oil Corp. Tulsa	21,704
M. S. Mussellem, * Muskogee	2154
C. L. McMahan, Inc., Tulsa	40,800
C. L. McMahan, Inc., (royalty) Tulsa	1579
Mahan Oil Co., Tulsa	9076
E. W. McCrary,* Tulsa	5096
Midland Cec. Co.,* Tulsa	6116
D. A. McDougal,* Sapulpa	2496
Turner Meadors,* Wetumka	1182
Frank Meadors, Jr.,* Wetumka	3501
F. W. Merrick, Ardmore	15,361
Ward Merrick et al, Ardmore	652
Ward S. Merrick Ardmore	1262
A. R. Moebins,* Sapulpa	904
Malernee Oil Co., Walters	9866
Mudge Oil Co., Pittsburgh, Pa.	17,632
D. G. Maxwell, Bartlesville	763
Mellon and Thomas McAlester	4239
I. R. McQueen, Oklahoma City.	5269
Midland Oil Co., Bartlesville	45,933
E. H. Mitchell, Duncan	1420
E. R. Minshall, Tulsa	5960
E. R. Minshall, Tulsa	348
E. B. Martindale,* Muskogee	2644
Rosa Meier,* Orange, Calif	4575
F. H. Murray,* Wichita, Kans	3103
Mid-Cont. Petr. Co., no address	1,702,741
B. F. Melton,* Duncan	4302

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With Roller Bearing Friction Clutch

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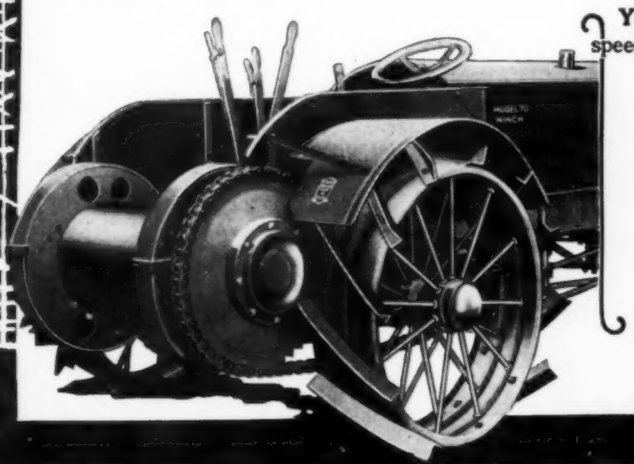

You get increased capacity, because you can speed up your motor, using the momentum of the motor and transmission to pick up the load, just like speeding up the motor of your automobile and letting the clutch in when starting on a steep hill. The load can be taken off the brakes without undue strain.

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Company Location	Barrels
Minnehoma Oil and Gas Co., Tulsa..	68,957
T. G. Mays,* Pauls Valley.....	1408
M. T. C. A. & G. Co., Tulsa.....	89,403
Melba Oil Co.,* Tulsa	2746
E. H. Moore,* Tulsa	2583
Mountain State Oil Co., Bartlesville.	28,643
McMan Oil and Gas Co.,* Tulsa....	884
McMan Oil and Gas Co., Tulsa	68,188
F. D. Misener, Tulsa	9849
Morton and Co., Bartlesville	6774
A. Moffett, Henryetta	2820
Myers and Twichell, Okmulgee	4610
Majestic Oil and Gas Ref. Co., DeQuinn, Ill.	1664
Mann Bros. Tulsa	14,508
C. B. Mills,* Minneapolis, Minn.....	6785
J. E. Monroe, Tulsa	2597
Number Oil Co., Tulsa	3235
Geo. Nix, Tulsa	10,888
Norwood Oil Co., Tulsa	9296
National Ref. Co., Cleveland, Ohio...	2310
F. M. Nelson, N. Y. City.....	10,830
National Union Oil and Gas Co., Sophia Nadle, Tulsa	2018
I. Nadle Tulsa	70,970
Eva E. Noble,* Ardmore	4449
Hattie Noble,* Ardmore	3336
Noble Olson et al, Ardmore.....	3187
National Oil and Dev. Co., Tulsa....	7824
Nowata Oil and Ref Co.,.....	14,351
Chas. Neubert,* Blatimore, Md.....	1551
Chas. F. Noble, Tulsa	15,095
New England Oil and Pipe Line Co., Boston, Mass	66,748
New England Oil and Pipe Line Co. (royalty) Boston, Mass	9247
Noble Oil and Gas Co., Tulsa.....	5003
Oil State Petr. Co., Enid	12,836
Oil State Petr. Co., Enid.....	5188
Obins and Weber, Bartlesville	4442
J. M. Oneal,* Tecumseh	1887
Owl Oil Co., Loco	13,802
D. L. Owsley, Tulsa	1330
Ona Oil Co., Blackwell	5237
A. G. Oliphant, Tulsa	3042
Ohio Fuel Oil Co.,* Pittsburgh, Pa..	6205
Oneida Petr. Co., Warren, Pa.....	3072
Osage Dev. Co., Bartlesville	5804
Okmulgee Oil and Dev. Co., Okmulgee	5140
Okla. Land, Coal & Petr. Co.,* Tulsa	1415
Ohio Osage Oil Co., Tulsa.....	3883
Oklavonia Oil Co., Tulsa	69,349
Lenora C. Phillips,* Bartlesville....	1742
Penmar Oil and Gas Co., Okmulgee..	4343
Chas. Page, C. W. Kingsbury and Geo. Kinney, Sand Springs, Okla.....	2272
Plover Drilling Co., Bartlesville.....	18,372
M. R. Patterson, Jamestown, N. Y...	4233
J. A. Patterson,* Wewoka	2091
J. N. Price, Okemah	2432
L. R. Page, Tulsa	2189
Pauline Oil and Gas Co., Oklahoma City	7758
Pure Oil Co., Chica	1,165,938
Paraffine Oil Co., Houston	8949
Pyramid Oil Co., Winchester, Ky...	7919
Chas. Page trustee, Tulsa	4957
Producers Oil Co., Tulsa	7739
Petr. Co. & M. H. Mosier, Tulsa....	12,002
Paragon Oil Co., Tulsa	4143
Phillips Petr. Co., Tulsa	1,476,082
Papoose Oil Co., Tulsa	28,677
Pure Oil Co., Wichita Falls	
Max A. Peshel,* Tulsa	1820
Pennok Oil Corp., Tulsa	34,685
Plymouth Petr. Co. et al, Tulsa.....	12,582
Provident Royalties Corp.,* Tulsa...	39,549
S. R. & Martha Patterson,* Davenport	1128
Page Bros. Oil Co., Tulsa.....	2686
W. B. Pine, Okmulgee	65,383
Pilgram Petr. Co., Wichita Falls....	6292
Phillips and Milam, Chelsea	19,572
Producers and Ref. Corp. Denver....	144,580
Papoose Oil Co., Tulsa	12,282
Pawnee Oil Prod. Co., Tulsa.....	3908
Peerless Oil and Gas Co.,* Indiana, Penn.	14,900
M. R. Patterson, Jamestown, Ky.....	3604
Prairie Oil and Gas Co., Independence Kans.	2,117,602
Prairie Oil and Gas Co., Independence Kans.	7067
C. P. Quinlan, Tulsa	4006
John Quimby,* Montebello, Cal.....	11,314
Redoak Oil Trust, Ardmore	2960
C. O. Ross, Coffeyville, Kans.....	1555
C. E. Ranney,* Tulsa	783
Riverland Co., Tulsa	707,291
Riverland Co.,* Tulsa	22,377
Geo. D. Roberts, Tulsa	8917
Leonard C. Ritts,* Tulsa	3567
Roxana Petr. Co., St. Louis	938,182
Reed and Harmon, Nowata	5,822
C. H. Reinhardt	3,235
D. H. Radcliff*	1,875
Royalty Interests,* Sand Springs	10,788
Reed and Harmon, Nowata	5,822
Rockland Oil Co., Ardmore	37,607
Rubana Oil Co., Winfield, Kans.	11,300
Red Bank Oil Co., Tulsa	11,055
C. O. Ross, et al, Coffeyville, Kans..	4,810
Rex Oil & Gas Co., Winchester, Ky.	7,919
Mabel Ringling,* Houston, Texas ...	5,442
E. L. Robinson, Gibson, Zahnsiner Oil Corp, Tulsa	16,641
Ryan Consolidated Petr. Co., Bartlesville	9,804
Thos. Roberts, Ardmore	3,216
Lenora Robinson, Ft. Worth, Texas..	20,194
W. F. Reardon, Santa Monica, Calif.	3,763
Reiter-Foster Oil Corp., Wichita Falls	4,066
Regal Oil & Gas Co., Tulsa	7,166
Mattie Roberson,* Stroud	760
Ramsey Oil Co., Caney, Kans.	2,330
R. L. & Andrew Stratton, Tulsa	3,940
Carl D. Smith, Agra	3,849
Will H. Smith,* Ardmore	1,555
Will H. Smith, trustee, Ardmore	38,818
Will H. Smith, Ardmore	2,629
Sarasota Oil Co., Ardmore	4,809
South Bend Oil Corp., Tulsa	2,314
Simpson Fell Oil Co., Ardmore	35,168
Harris Strawn Oil Co., Ardmore ...	2,825
Sprague Oil Co., Ardmore	4,241
Shertzer Bros., Dewey	6,912
J. J. Schock Oil & Gas Co.	3,300
Seminole Oil Co., Tulsa	2,624
C. B. Shaffer,* Chicago	787
Clyde and W. Seav,* Oscar	2,885
A. C. Simpsom,* Ardmore	985
John Smith,* Wetumka	2,039
T. K. Smith,* Tulsa	4,602
Sturm Drilling Co., Ardmore	3,197
W. E. Simpsom,* St. Louis	985
Est. of L. S. Skelton, Okmulgee	2,183
Sidwell Drilling Co., Sapulpa	18,861
Speegle & Hall, Duncan	1,945
Sheridon Oil Co., Tulsa	12,045
Stevner Oil Co., Bartlesville	11,638
M. D. Smith,' Ardmore	1,334
Schermerhorn Oil Co., Tulsa	5,764
Speary Bros. & Mills, Marietta, Ohio	7,455
Snowden and McSweeney, New York	18,783
Mary I. Steele,* Duncan	1,309
Mary J. Steele, Gdn.,* Duncan	1,309
G. A. Simon,* Tulsa	2,888
P. H. Stein,* Muskogee	909
Superior Oil Corp., Lexington, Ky ..	299,896
G. J. Smith,* Tulsa	21,340
G. J. Smith (production), Tulsa	55,359
Tom Slick, Inc., Oklahoma City ...	142,707
T. B. Slick,* Clarion, Pa.	31,475
T. B. Slick (production), Clarion, Pa.	353,832
Standish Oil Co., Bartlesville	3,228
Z. W. Slona No. 1, Tulsa	3,468
Sapulpa Ref. Co., Denver, Colo.	4,588
Sapulpa Ref. Co., Denver, Colo.	21,363
Skelly Oil Co.,* Tulsa	3,415
Schermerhorn-Ardmore Co., Minneapolis, Minn.	38,594
Skelly Oil Co., Tulsa	506,658
J. B. Schermerhorn, Inc.,* Minneapolis, Minn.	1,316
J. B. Schermerhorn (production) Minneapolis, Minn.	79,757
Schermerhorn Young Co., Minneapolis, Minn.	3,195
Selby Oil & Gas Co.,* Tulsa	2,740
C. T. Smith, trustee, Okmulgee	2,657
H. L. Spencer,* Blackwell	11,156
O. S. Sparks,* Ardmore	2,760
J. K. D. Shaffer,* Oklahoma City ...	2,851
Skelton-Moore Oil Co., Bartlesville ..	8,334
Sunray Oil Corp., Tulsa	35,868
W. H. Shackelford,* Kansas City, Mo.	3,722
Sinclair Oil & Gas Co., Tulsa 2,304,370	
Shaffer Oil & Ref. Co., Tulsa	367,460
Savoy Oil Co., Tulsa	13,193
Smith & Steinberger, Tulsa	577
Thompson Oil and Gas Co., Tulsa...	6,216
D. M. Tyler et al,* Dewey	1,973
The Little Ed Oil Co., Tulsa.....	5,332
F. E. Tucker,* Ardmore	5,360
Tiger Petr. Co., Tulsa	9,108
Texas Co. Production Dept.,*.....	32,059
Texas Co. Production Dept., ...1,046,284	
Thirty-second Oil and Gas Co., Ardmore	3,109
Trey Oil and Gas Co., Sapulpa.....	3,846
W. T. Tipton,* Davenport	811
Test Oillo, Bradford, Pa.	3,225
Arthur Talbet, trustee,* Blackwell...	1,464
Texas Pacific Coal and Oil Co., Thurber, Texas	75,912
Taft Oil Co., Independence, Kans. ...	2,640
Transcontinental Oil Co., Tulsa.....	146,356
Tidal Oil Co., Tulsa	453,720
Twin State Oil Co., Tulsa.....	257,367
Tidal Osage Oil Co., Tulsa.....1,132,262	
The Tulsa Co., Oklahoma City.....	13,514
T. A. Thurmond. Ardmore	2,750
Thornton Secureties Co.,* Westville, N. Y.	1,177
C. G. Tibbens, Tulsa	39,772
Tiger Mt. Oil Co., Tulsa.....	1,055
Milton Thompson,* Cushing	1,697
J. N. Thompson,* Tulsa	1,809
Texas Drilling Synd. No. 3, Duncan..	5,116
The Petroleum Co., Tulsa	5,485
J. B. Umpleby,* Oklahoma City	2,961
Mrs. F. S. Urshel, Oklahoma City ...	4,426
United Royalty Co.,' Wichita Falls...	2,267
Union Oil & Mineral Co., Indianapolis, Indiana	7,423
C. F. Urshel, Oklahoma City	4,426
Leon G. Voorhees,* Ardmore	23,458
Hazel D. Voorhees,* Ardmore	1,183
S. E. Vance, Tulsa	2,168
Sam K. Viersen,* Okmulgee	11,467
Leon G. Voorhees, Ardmore	28,979
Van Dolls Bros., Bartlesville	14,503
Verland Oil & Gas Co., Tulsa	3,338
Vicmar Oil Co., Tulsa	2,911
Vowell & Jackson, Sapulpa	5,817
Valley Osage Oil Co., Tulsa	22,582
Vernon Oil & Gas Co., Blackwell ...	9,343
G. L. Van Eman, Jennings	1,293
E. L. Worrell,* Ryan	1,554
Wolverene Pet. Corp., St. Louis	224,068
L. W. Wentz, Ponca	474,314
Wentz Oil Corporation	2,363
Walsh Oil Co., Tulsa	5,542
Western Oil Corp., Tulsa	5,831
Warner Caldwell Oil Co., Titusville, Pa.	21,519
R. Welch,* Blackwell	958
Westheimer & Daube, Ardmore	118,433
Westheimer & Daube,* Ardmore	17,590
White Eagle Oil & Gas, Wichita, Kan.	16,104
Westland Oil Corp., Tulsa	77,695
G. M. Withington,* Marietta, Ohio ..	1,527
Margaret M. Withington,* Marietta, Ohio	1,545
Wrightsman Pet. Co.,* Tulsa	1,199
Wrightsman Pet. Co. (prod'n), Tulsa	1,886
Edna Wrightsman,* Tulsa	949
Wiser Oil Co., Bartlesville	63,418
C. D. Williams,'* Ardmore	815
W. J. Wylie, Bristow	3,128
Western State Oil & Land Co., Denver, Colo.	894
W. W. Woodworth, Ringling	2,940
Willard Oil Co.,* Boyton	812
F. J. Welch,* Tulsa	933
Etta J. Weber, Bartlesville	1,712
Louis H. Walker,* Orange, Calif. ...	3,542
J. H. Wright, Sapulpa	33,975
Wood Oil Co.,* Tulsa	57,537
Ruth Welsh, *4 Blackwell	2,962
J. L. Welsh,* Blackwell	2,962
Wittmer Property, Philadelphia, Pa...	8,906
E. A. Walker, Oklahoma City	30,203
May M. Walker,* Oklahoma City ...	1,183
Winona Oil Co. of Delaware	71,702
Winona Oil Co. of Delaware	3,738
H. F. Wilcox Oil & Gas Co., Tulsa..	176,831
Wolfe Oil Corp., Bristow	4,838
Henry C. Walker,* Los Angeles ...	3,542
Robert Watchorn, Oklahoma City ...	3,150
Watchorn Oil & Gas Co., Oklahoma City	102,852
J. H. West, Tulsa	3,869
Wah-Shah-She Oil Co., Bartlesville ..	4,753
Walda Oil and Gas, Carlisle, Pa. ...	4,627
York Oil & Gas Co.,* Muskogee	5,148
Zola Oil Co., Tulsa	17,657

*Indicates Royaltay.

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Geology of the Panuco District

Continued from page 42

the San Rafael deposits, which are commonly regarded as upper Oligocene or Lower Miocene. A part of the marine Tertiary of the region, also tilted during the deformation, is regarded by some as younger than the typical San Rafael. After the deformation ceased the succeeding cycle of erosion was carried so near to completion that a peneplain was developed over the low-land plains. Thereupon, the peneplain surface was extensively covered with chert gravel largely cemented with calcium carbonate. These gravels extend from the Isthmus of Tehuantepec to Texas where they are continuous with the Lafayette deposits. They are perhaps not all of the same age, however, as they may have gradually spread by being shifted from one site to another through a very considerable part of the later Cenozoic. The mountain highlands are residual masses of rocks relatively more resistant to denudative forces and are close to the Gulf, hence their peneplanation would be brought about fairly rapidly.

Since the deposition of the Lafayette gravels the plains area has been rejuvenated and a second and lower peneplain is now well on the way to completion. Regional uplift of the entire region appears to be the most adequate explanation of the rejuvenation. There is some probability, though not certainty, that the latest uplift was of the nature of a very broad and gentle tilting of the whole region towards the Gulf of Mexico. At least, the subsequent latest erosion along the headwaters tributaries of the Rio Tamesi in the geosyncline east of the Front Ranges has excavated valleys miles in breadth and from 600 to 800 feet deep in territory formerly covered by a basaltic flow which overlies the Lafayette gravels. The second cycle of peneplanation has been complicated by a depression of the coastal province.

Occurrence, Nature and Origin of Oil

The oil of the Panuco section varies in gravity from 12.5 degrees to 12.9 degrees Beaume; contains from 3.5 to 5.7 per cent of sulphur, an average of 3.5 per cent (Maximum 5 per cent) of gasoline, and has an asphalt base. Topila oil varies from 15 degrees to 17.2 degrees Beaume gravity. Ebano oil averages from 10.6 degrees to 11.8 degrees Beaume gravity. In the higher levels, particularly in the Mendez marl, a much lighter and better quality oil is often encountered, but only in limited quantities and the supply is soon exhausted. For instance, at Topila, oil with a gravity at least as high as 48.6 degrees Beaume and with only a trace of sulphur has been found. The lighter gravity oils are prevalently of a light brown color and contain a relatively high percentage of volatile constituents. They are most probably filtered oils, altered from their original composition during their passage through the marls. The temperature of Panuco oil ranges from 90 degrees to 120 degrees Fahrenheit. The temperature ordinarily rises a few degrees upon the appearance of salt water.

One oil seepage occurred in the Panuco section proper and one small seepage in the Topila Estero at Topila. In the Ebano section are rather extensive seepages on faults and along the sides of basaltic intrusions. Several hundreds of seepages occur in the Tamesi Valley north of the area of present production. These Tamesi Valley seepages are in general very old. They began at least as early as the epoch of erosion which formed the broad valley during the post-Lafayette cycle. In the eastern part of the valley the epoch of valley erosion was followed by depression forming an embayment of the Gulf which has not yet been filled to sea-level by alluviation. A large part of the Tamesi seepages are still active and at least a very large percentage of them have straight alignment along faults in the Pierre and Velasco which reach to the surface of the bed rock.

Oil has been found in wells from the top of the bed rock to 1700 feet beneath the top of the Washita. Most of the production, however, has come from a zone about 500 feet thick situated 250 feet above and below the top of the Washita. Open fractures large enough to give profitable production are rare in the relatively non-competent Pierre and Velasco, being confined largely to the hard, brittle limestones. In the early days of the field profitable production was found in instances as low as 800 feet beneath the top of the Washita. In a very few instances profitable production was procured underneath an upper horizon of salt water, but such cases are so rare it is thought that the top water was present in local pockets or else that first an upper fractured zone full of water was found and lower down another oil-bearing fractured zone occurred.

The drilling of a well absolutely barren of oil is very exceptional yet the majority of wells drilled are not profitable producers. One-third of the total wells drilled before January 1, 1920, were commercially failures, while during the first quarter of 1926 fourteen-fifteenths of the total wells drilled were failures. Successful wells must be situated where fractures will be reached above the salt water zone and this ordinarily is a quite difficult matter in regions where the situation of fractures has not been determined by previous drilling. In some instances, the fractures appear to be scarcely wider than the average fault; in others, there is a fractured zone of variable width in which production can be obtained. Wells placed within a very few feet of known faults have failed because no fractures were penetrated. As is usually the case in faulting, displacements along faults do not run in absolutely straight lines and although most of the faults are nearly vertical, in very few cases are they absolutely vertical. It is also impossible to foretell where they cease either horizontally or vertically and some parts of the faults have become imperviously sealed either by gouging or by deposition of mineral matter in them. In some cases there has been fairly extensive solution along faults which has formed in limestone generally irregular and cavernous open spaces. It is also possible in some cases for the oil near the junction with the water to become so solidified by changing to heavy tar as to form an impervious medium, as in East Coast Oil Company well M-59 Laguna de la Milpa where oil of 11 degrees Beaume gravity occurred surrounded by wells yielding oil of the usual type. This well later produced oil of the usual gravity.

There are three definitely known source horizons of the oil. One is the thinly laminated bituminous strata interbedded with the limestones in the Benton, the second the bituminous shale referred to the Kiamitia, and the third and probably the thickest and by far the most important the Kimmeridge Upper Jurassic. It is doubtful whether both the upper two together aggregate in thickness more than a maximum of 75 feet and are most probably less thick. So far as has ever been determined there are no other source beds in the entire section. The Kimmeridge and Lower Portland in the Cordilleran Front Ranges to the westward of Ciudad Victoria are very bituminous. The total thickness of the Upper Jurassic oil-bearing horizon beneath the Panuco Field is not yet known. A fairly thick section of Pennsylvanian bituminous shale is found in the mountains a short distance west of Ciudad Victoria and it is possible other oil-bearing horizons of Paleozoic age may be found in the unexplored parts of the mountains between Ciudad Victoria and Linares, or in the Front Ranges south of the latitude of Tampico. Hence there are possibly pre-Jurassic oil-bearing strata underlying the Panuco field, and, if so, some of the Panuco oil may be derived from them, since it could hardly migrate vertically along faults or the sides of igneous intrusions.

Both the Benton and Kiamitia (?) formations of the field are still quite heavily saturated with bitumen. The unfractured Benton will not yield profitable production now and apparently did not so yield in the early life of the field. The Kiamitia (?) horizon did formerly yield profitable oil and gave a small yield when last drilled into in September, 1924, but it is impossible to tell whether the oil may not have accumulated in fractures, the tops of which were sealed by the shale.

It appears quite likely that the reason unfractured sections of the Benton will not yield profitable production is due to the very high percentage of altered volcanic ash which holds the oil by absorption or other colloidal action. The heat radiating from the igneous intrusions may have distilled the oil from the Ben-

ton and Kiamitia (?) and the gas generated by the distillation and emanating from the magmas may have forced the oil into the cavities. Oil so distilled would not be destroyed by the heat since it did not have free outlet to the surface and no oxidation could take place at the depth in which it was formed. The amount of oil so formed would be limited by the total volume of accessible open spaces.

If such distillation of oil has occurred and if the only source beds of the oil were the Benton and Kiamitia (?), it would be desirable to know whether the igneous intrusions are mainly confined to the axial portion of the Sierra de Tamaulipas anticline. This we cannot answer although extensive igneous intrusions reach the surface low down on the eastern flanks of the anticline in the country between the Rio Soto la Marina and Rio Barbarena. If there has been upward migration of oil from the broad lower flanks of the anticline to the Panuco field the 2600 barrels per acre average production to date of the field is not large, indeed rediculously small. It seems very reasonable to hold that such production could be derived from the Benton and Kiamitia (?) horizons of no more than the producing area. Unless there are very extensive fractures and and open spaces throughout the territory of the lower flanks, it is very difficult to conceive how extensive lateral migration could have occurred. Computing the thickness of bituminous strata as 50 feet and the saturation as 10 per cent only about one-fortieth of the total oil content of the Benton and Kiamitia (?) has yet been produced, disregarding entirely any possible lateral migration from the flanks.

The Kimmeridge shales and limestones are richer in bitumens than any of the higher horizons and the oil in them is in a condition much more adaptable as a source of supply to the productive fractures. The Upper Jurassic is by far the greatest oil-bearing horizon which is known in the whole rock section exposed in the eastern Cordillera. It is probably within reasonable present drilling depth throughout the present developed field and it may well be possible to procure profitable production from this horizon after casing and cementing off shallower water zones in the overlying Cretaceous. There appears to be less reason than was formerly the case for the view that oil production would not be had below the zone of first appearance of salt water, if, indeed, there was ever any adequate basis for such somewhat prevalent view. It cannot be too strongly emphasized that underground conditions as respects both oil and salt water are very irregular in the Panuco field and it is altogether probable that zones of productive oil will be found within the Lower Cretaceous section overlain, underlain and very probably surrounded by salt water zones.

Traeger's view* that the main source beds of the Panuco oil are the Pierre and Velasco marls is probably incorrect. Neither of those formations show any evidence of large content of bitumen either now or formerly. Those strata are moreover very impervious to the passage of oil and water. The most it appears possible to say for them is that they may have yielded some oil by distillation under conditions of igneous action and pressure prevalent in the field, as perhaps all marine sediments will do under like conditions, but the Upper Jurassic has certainly even yet a very much greater content of available oil although subjected to greater heat and pressure than Traeger's supposed source beds.

Slightly more than half of the Panuco field production has come from the Panuco section proper. In the latter, nearly seven-tenths total production is from the Tampuche syncline, mainly from diagonally across the flanks, nearly three-tenths from the Panuco anticline and one-twenty-seventh from the Halcon fault zone.

The Ingenio-Peralta greatly fractured territory with an area of about 40 acres, has produced 54,000,000 barrels or 1,350,000 barrels per acre, enough oil to cover the 40 acres to a depth of more than 170 feet. The San Manuel fault along a distance of three-fourths mile has produced nearly 42,000,000 barrels. These two small areas hence have supplied nearly two-fifths of the entire production of the Panuco section proper.

Origin of Gas

The composition of Panuco gas is 50 to 98 per cent carbon dioxide, with methane and possible other petroleum derivatives taking second place, the third constituent being hydrogen sulphide. In some cases there is probably some sulphur dioxide. Some wells yield gases which will burn, but much, perhaps most, of the gas will not burn. The gas generally contains sufficient hydrogen sulphide to give its characteristic odor. The gas of some wells appears to be nearly pure carbon dioxide. Very few analyses of the gas have ever been made.

The carbon dioxide is perhaps derived from two sources: (1) The metamorphic action of hot magmas intruding limestone (calcination) and eruptive after effects have liberated vast quantities of it; (2) a part has been derived by the dissolving action of the underground water, already highly charged with the same gas from the first source, and therefore, forming a solution which readily dissolves the limestone. The hydrogen sulphide appears to be either entirely of magmatic origin or derived from the reduction of sulphate in solution in the water, since practically all the pyrite and chalcopyrite found in drilling samples are entirely unaltered.

The hydrogen sulphide has apparently been the leading agent in the trrifying of the oil, making it excessively heavy. The oxygen of the asphalt can be partially or entirely replaced by sulphur and the Panuco oil contains sulphur in the elementary condition up to the saturation point for that element at the prevailing temperatures.

*The Geological History of the Panuco River Valley and Its Relation to the Origin and Accumulation of oil in Mexico, by Earl C. Traeger, Pages 692-95 Bull. Am. Association of Petroleum Geologists, Vol. 10 No. 7, July, 1926.

Dozen New Tests Under Way in Moe-Calpet Pool

Great Falls, Mont.—California Petroleum Company continued to score in the new Moe-Calpet pool during the past week with a 500 barrel completion on the northeast quarter of section 28-35-2. The well promised to be a spectacular producer but calmed down slightly as the sand was drilled through. An actual test showed a production of 500 barrels, however. Production was found at the average depth for the district. The Ellis sand was tapped at 1424 feet. The sand seemed to be more porous than in the discovery well. Other producers in the district immediately decided to offset the California producer. More than a dozen wells are under way in the new pool.

The Moe-Calpet pool promises to produce in as varied formations as the other pools in the Kevin-Sunburst field. The Hill Oil Company has completed a 100 barrel well near the base of the Madison lime. Production generally has been found above the main lime formation. Water developed at the base of the lime.

Indifferent Showing at Potrero Halts Work

Los Angeles.—Only a casual interest is being shown in the Potrero (Cypress) district of California following this area's failure to reveal anything better than negative showings subsequent to the one trace of oil sand found in the Associated Oil Company's Cypress 1.

One well is drilling in the vicinity now—that of the General Petroleum Corporation. All other operations have been suspended.

After unfavorable results from its two previous wells, Julian Petroleum Corporation, now known as California-Eastern Interests, will drill a wildcat well in the northwest sector of the area under speculation.

The Associated's Cypress No. 1 which is known to have sufficient oil sand to warrant a test, is idle. Present market condition in California does not justify the Associated in attempting to precipitate a boom—even though it were possible to do so.

To Prevent Pollution of Huntington Beach

Huntington Beach, Calif.—A concrete move to check further pollution of the ocean by waste oil from the flush Huntington Beach townsite is seen in the recent appointment of a deputy fish and game commissioner, E. A. Chan.

Mr. Chan will cooperate with the operators in an attempt to prevent oil entering the ocean through storm drains.

Above you see the W-K-M Tubing Slip as it appears when engaged. Four segments, with extra-large gripping area, insure positive grip and no swaging under any circumstances. The Slip rises when the string is lifted. No sticking or binding—ever.

Notice in this view of the W-K-M Tubing Slip the fillet head set screws which hold the four segments in place on the handles, allowing a small amount of horizontal movement, but no vertical movement.

This Tool Saves 25% of Oil Lost When Tubing Is Pulled

By eliminating one set of elevators, and one set of tubing tongs, the W-K-M Tubing Slip and Spider actually saves about 25 per cent of the oil lost while tubing is being pulled. The saving is made, of course, by speeding up tubing jobs at least 25 per cent faster than they can be done with double elevators.

In almost every field in the United States, and in many foreign fields, you can check this statement by talking with a user. Literally thousands of sets of these tools have been sold. And, users will give you the actual facts about them, gladly.

An interesting illustrated descriptive folder tells all about them, and quotes prices on all sizes. It will cheerfully be sent free on request.

W-K-M COMPANY, Inc.

HOUSTON, TEXAS

Descriptive Price Booklet Sent FREE

W-K-M Company, Inc.
Houston, Texas.

Gentlemen: Without obligating us, you may send your descriptive price booklet on W-K-M-Tubing Slips and Spiders to the address below:

Name.....

Street.....

City.....

State.....

CRUDE OIL PRICE QUOTATIONS

CRUDE PRICE CHANGES

April 1.—Effective at the opening of the market today, the Standard Oil Company of California announced a reduction in the prices offered for refinable crude oils, ranging from one cent per barrel on the heaviest grade of crude, to $1.36 for the lightest grade of 42 degrees gravity oil. The price fo rthe average grade of refinable crude is reduced about 50 cents per barrel. Prices offered for heavy grade of 14 degrees gravity remain unchanged. This reduction is effective in all California fields where the company is purchasing.

CURRENT POSTINGS

EASTERN STATES

	April 6 1927
New York Transit	$3.15
Bradford District	3.15
National Transit	3.05
Southwest	3.05
Eureka	3.00
Buckeye	2.85
Macksburg	2.80
Gaines	2.60
Somerset	1.70
Cabell	1.60
Ragland	.95
Corning	1.50
Keister	1.45

CENTRAL STATES

Illinois	1.60
Indiana	1.48
Lima	1.71
Plymouth	1.33
Princeton	1.60
Waterloo	1.18
Wooster	1.77

WESTERN KENTUCKY

Posted by Stoll Refining Company for crude from Allen, Warren, Franklin, Davies, Barren, All grades 1.50

MIDCONTINENT

Prairie, Sinclair, Gulf, Texas and Magnolia Cumberland and Monroe Counties.

Below 28 (Magnolia only)	1.10
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20

	April 6 1927
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 to 38.9 gravity	1.32
39 to 39.9 gravity	1.34
40 to 40.9 gravity	1.36
41 to 41.9 gravity	1.38
42 to 42.9 gravity	1.40
43 to 43.9 gravity	1.42
44 to 44.9 gravity	1.44
45 to 45.9 gravity	1.46
46 to 46.9 gravity	1.48
47 to 47.9 gravity	1.50
48 to 48.9 gravity	1.52
49 to 49.9 gravity	1.54
50 to 50.9 gravity	1.56
51 to 51.9 gravity	1.58
52 and above	1.60

NORTH AND CENTRAL TEXAS

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie Moran and Nocona Crude

Humble O. & R. Co.* and Texas Co.

28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.0 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 to 38.9 gravity	1.32
39 to 39.9 gravity	1.34
40 to 40.9 gravity	1.36
41 to 41.9 gravity	1.38
42 to 42.9 gravity	1.40
43 to 43.9 gravity	1.42
44 to 44.9 gravity	1.44
45 to 45.9 gravity	1.46
46 to 46.9 gravity	1.48
47 to 47.9 gravity	1.50
48 to 48.9 gravity	1.52
49 to 49.9 gravity	1.54
50 to 50.9 gravity	1.56
51 to 51.9 gravity	1.58
52 and above	1.60

Corsicana Heavy, $1.00 per barrel, posted by Magnolia.

*Until further notice, Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes purchased at agravity lower than 28 degrees will be paid for at the posted price for 28 degrees gravity.

SOUTH TEXAS

	April 6 1927
Mirando	1.00

SOMERSET

Grayburg and Pioneer

28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 and up	1.32

GULF COAST

Grade "A" all companies	1.20
Gulf Coast Light Oil, Below 25	1.15
25 to 25.9 gravity	1.17
26 to 26.9 gravity	1.19
27 to 27.9 gravity	1.21
28 to 28.9 gravity	1.23
29 to 29.9 gravity	1.25
30 to 30.9 gravity	1.27
31 to 31.9 gravity	1.29
32 to 32.9 gravity	1.31
33 to 33.9 gravity	1.33
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.37
36 to 36.9 gravity	1.39
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.43
39 to 39.9 gravity	1.45
40 and above	1.47

*Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crudes above 35 is $1.37 per barrel.

Magnolia Petroleum Company's postings stop at 31 to 31.9.

MARKHAM

The Texas Company

All grades	1.00

LULING

All grades	1.15

(Continued on page 64)

CALIFORNIA CRUDE OIL PRICES AT THE WELL

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated)

Gravity (degrees)	Signal Hill	Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Torrance	Richfield	Whittier La Harbra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14-9	$ .85	$ .85	$ .85	$ .85	$ .85	$ ..	$ .85	$ .85	$ .85	$ .85	$ .85	$ ..	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75
15-15-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
16-16-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
17-17-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
18-18-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
19-19-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
20-20-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	..	.77	.77	.77	.76	.76
21-21-9	.86	.86	.86	.86	.86	..	.86	.86	.85	.85	.86	.85	..	.79	.79	.79	.77	.77
22-22-9	.87	.87	.87	.87	.87	..	.87	.87	.85	.85	.87	.85	..	.81	.81	.81	.78	.78
23-23-9	.88	.88	.88	.88	.88	..	.88	.88	..	.85	.88	.85	..	.83	.83	.83	.79	.79
24-24-9	.89	.89	.89	.89	.89	.89	.89	.89	..	.85	.89	.85	..	.85	.85	.85	.80	.80
25-25-9	.90	.90	.90	.90	.90	.90	.90	.90	..	.86	.90	.86	..	.87	.87	.87	.81	.81
26-26-9	.92	.92	.92	.92	.92	.92	.92	.92	..	.87	.91	.87	..	.89	.89	.89	.83	.82
27-27-9	.94	.94	.94	.94	.94	.94	.94	.94	..	.88	.92	.88	..	.91	.91	.91	.85	.83
28-28-9	.96	.96	.96	.96	.96	.96	.96	.96	..	.89	.93	.89	..	.93	.93	.93	.87	..
29-29-9	.98	.98	.98	..	.98	.98	..	.98	..	.90	.94	.91	..	.96	.96	.96	.89	..
30-30-9	1.00	1.00	1.00	..	1.00	1.00	..	1.00	..	.91	.95	.93	..	.99	.99	.99	.91	..
31-31-9	1.03	1.03	1.03	..	..	1.03	..	..	..	..	..	.95	..	1.02	1.02	1.02	.93	..
32-32-9	1.06	1.06	1.06	..	..	1.06	..	..	..	..	..	.97	..	1.05	1.05	1.05	.95	..
33-33-9	..	..	..	..	..	1.09	..	..	..	..	..	.99	..	1.08	1.08	1.08	.97	..
34-34-9	..	..	..	..	..	1.12	..	..	..	..	..	1.01	..	..	..	1.11	.99	..
35-35-9	..	..	..	..	..	1.15	..	..	..	..	..	1.03	..	..	..	..	1.01	..
36-36-9	..	..	..	..	..	1.18	..	..	..	..	..	1.06	..	..	..	..	..	..
37-37-9	..	..	..	..	..	1.21	..	..	..	..	..	1.09	..	..	..	..	..	..
38-38-9	..	..	..	..	..	1.24	..	..	..	..	..	1.12	..	..	..	..	..	..
39-39-9	..	..	..	..	..	1.27	..	..	..	..	..	1.15	..	..	..	..	..	..
40-40-9	..	..	..	..	..	1.30	..	..	..	..	..	..	..	..	..	..	..	..
41-41-9	..	..	..	..	..	1.33	..	..	..	..	..	..	..	..	..	..	..	..
42-42-9	..	..	..	..	..	1.36	..	..	..	..	..	..	..	..	..	..	..	..

If your crude runs 30% emulsion you are deducted 300 barrels in every 1000 shipped--

Why?

The Official "Oil Doctor" Will Show You How to Stop "Cut Oil" Losses

With every barrel of "cut" oil that you sell, you are giving away a slice of your profits in direct proportion to the percentage of emulsion content.

Out of every barrel of emulsified crude, "PETRECO"—the electrical dehydrating process—will positively, and at trifling expense, recover a large percentage of good oil. This is practically all clear gain, and to some operators, "Petreco" recovered oil has meant the difference between operating at a profit or at a loss.

Ask the "Official Oil Doctor" for an analysis and a "prescription" for your particular requirements — HE KNOWS—and he'll show you how to get the last drop of good oil out of every barrel of your production.

"PETRECO"

is a simple, fool-proof, trouble-free method of electrically treating emulsified crude. It should not be confused nor confounded with any other method or system for treating crude. There is only one "Petreco", and "Petreco" results are unfailing.

Send for "The Electrical Process For The Dehydration of Crude Oil Emulsions". Sent free on request, and you will find it extremely interesting.

PETROLEUM RECTIFYING COMPANY of CALIFORNIA

306 Union Oil Bldg. Los Angeles, Calif.

Petroleum Bldg. Houston, Texas

A-124

TEXAS PANHANDLE
Magnolia Petroleum Company

	April 6 1927
Hutchinson, Carson and Gray counties, all grades	1.25
Humble Oil & Refining Company, Gulf Refining Company and Kay County Gas Company all grades	.95

Gray and Wheeler Counties
Humble Oil & Refining Company

28 to 28.9 gravity	.80
29 to 29.9 gravity	.82
30 to 30.9 gravity	.84
31 to 31.9 gravity	.86
32 to 32.9 gravity	.88
33 to 33.9 gravity	.90
34 to 34.9 gravity	.92
35 to 35.9 gravity	.94
36 to 36.9 gravity	.96
37 to 37.9 gravity	.98
38 to 38.9 gravity	1.00
39 to 39.9 gravity	1.02
40 to 40.9 gravity	1.04
41 to 41.9 gravity	1.06
42 to 42.9 gravity	1.08
43 to 43.9 gravity	1.10
44 and above	1.12

Crane-Upton-Crockett* Counties
Gulf, Humble and Kay County Gas Company

Below 26 gravity	.70
26 to 26.9 gravity	.72
27 to 27.9 gravity	.74
28 to 28.9 gravity	.76
29 to 29.9 gravity	.78
30 to 30.9 gravity	.80
31 to 31.9 gravity	.82
32 to 32.9 gravity	.84
33 to 33.9 gravity	.86
34 to 34.9 gravity	.88
35 to 35.9 gravity	.90
36 and above	.92

*Gulf does not post in Crockett County.

Magnolia Petroleum Company and Kay County Gas Company
Howard County (Chalk Field) 1.43

WYOMING-MONTANA
Wyoming

Byron	1.33
Ferris	1.60
Elk Basin	1.33
Grass Creek	1.33
Rock Creek	1.25
Lost Soldier	.95
Lance Creek	1.33
Mule Creek	1.30
Notches	.65
Big Muddy	1.25
Osage	1.33
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.55
Lander	.80
Simpson Ridge	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

Salt Creek
Midwest Refining Company

29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 and above	1.30

MONTANA

Sunburst	1.35
Cat Creek	1.33
Lake Basin	2.20

NEW MEXICO

Artesia	1.00
Hogback	1.38

CANADIAN CRUDE

Oil Springs	2.18
Petrolia	2.11

*Bounty on Canadian crude is ¾ cent per gallon, or 26¼ cents per barrel.

LOUISIANA-ARKANSAS
(Standard of Louisiana, Louisiana Oil Refining Company, Gulf Refining Company of Louisiana and The Texas Co.) Homer, Haynesville, Caddo, El Dorado, De Soto and Chrichton.

	April 6 1927
Below 28 gravity	1.10
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 to 38.9 gravity	1.32
39 to 39.9 gravity	1.34
40 to 40.9 gravity	1.36
41 to 41.9 gravity	1.38
42 to 42.9 gravity	1.40
43 to 43.9 gravity	1.42
44 to 44.9 gravity	1.44
45 to 45.9 gravity	1.46
46 to 46.9 gravity	1.48
47 to 47.9 gravity	1.50
48 to 48.9 gravity	1.52
49 to 49.9 gravity	1.54
50 to 50.9 gravity	1.56
51 to 51.9 gravity	1.58
52 and above	1.60

Atlantic Oil Producing Company posts this same schedule on Homer, Haynesville, and West El Dorado.

Magnolia Petroleum Company has the same posting on Pine Island, Haynesville, Eldorado and Bull Bayou.

STEPHENS
(All Companies)

	April 6 1927
Below 28	1.00
28 to 28.9 gravity	1.02
29 to 29.9 gravity	1.04
30 to 30.9 gravity	1.06
31 to 31.9 gravity	1.08
32 and above	1.10

SMACKOVER
(Louisiana Oil Refining Company, Atlantic Oil Producing Company, and Shreveport-Eldorado Pipe Line Company)

Below 24 gravity	$1.00
24 to 27.9 gravity	1.15
28 to 28.9 gravity	1.17
29 to 29.9 gravity	1.19
30 and above	1.21

Other Companies

Below 24 gravity	1.00
24 and above	1.25
Bellevue	1.25
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	1.00
Cotton Valley	1.00
Calion	1.00

RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS
(American Petroleum Institute Figures. Barrels of 42 gallons)

	Week Ended March 26	Week Ended March 19
AT ATLANTIC COAST PORTS		
Baltimore	.....	178,000
Boston	170,000	.....
New York	491,000	544,000
Philadelphia	148,000	.....
Others	180,000	.....
Total	989,000	722,000
Daily average	141,286	103,143
AT GULF COAST PORTS—		
TOTAL ATLANTIC AND GULF COAST PORTS—		
Total Atlantic and Gulf Coast Ports	989,000	722,000
Daily Average	141,286	103,143
Daily average four weeks ended	116,143	93,321
DISTRIBUTION OF TOTAL CALIFORNIA OIL RECEIPTS IS AS FOLLOWS:		
Crude	312,000	174,000
Gasoline	360,000	78,000
Gas Oil	75,000	395,000
Fuel Oil	242,000	75,000
Total	989,000	722,000

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS
(American Petroleum Institute Figures. Barrels of 42 gallons)

	Week Ended March 26	Week Ended March 19
AT ATLANTIC COAST PORTS—		
Baltimore	.....	70,000
Boston	.....	131,000
New York	354,000	534,000
Philadelphia	.....	.....
Others	171,000	40,000
Total	525,000	775,000
Daily Average	75,000	110,714
AT GULF COAST PORTS—		
Galveston District	64,000	40,000
New Orleans and Baton Rouge	141,000	66,000
Port Arthur and Sabine District	50,000	25,000
Tampa	22,000	59,000
Total	227,000	190,000
Daily Average	39,571	27,143
AT ALL UNITED STATES PORTS—		
Total	802,000	965,000
Daily Average	114,571	137,857
Daily Average Four Weeks Ended	162,822	179,357

Not Theory But Plain Facts About La Belle Durability

HERE are two examples of what one organization control of every producing operation "from Mine to Market" means in the *performance* of Casing, Tubing and Line Pipe.

Recently a string of LaBelle Casing—*in the ground for 14 years*—was removed and used in casing a new well at Homeworth, Ohio. After being in service 14 years, this casing was reported as good as new, many joints still showing original markings of La Belle inspection.

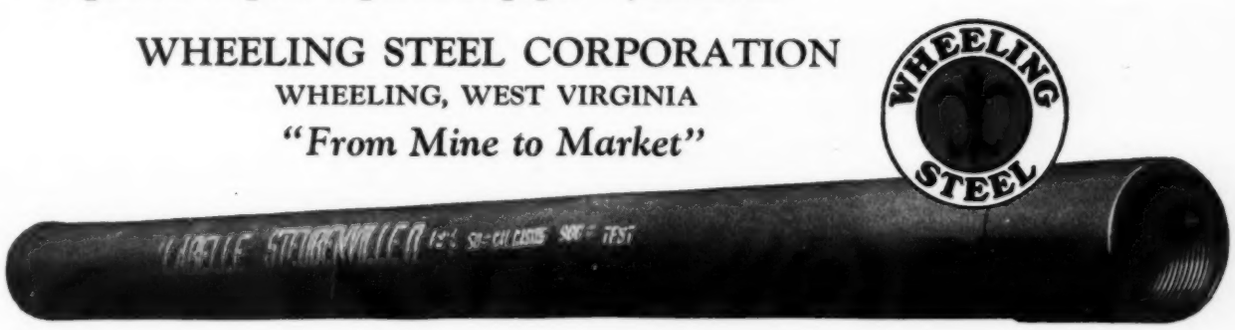
And at Carnegie Institute

. . . a pull of 356,350 lbs. was required to part a piece of pipe cut from a joint of 6 5-8", 24 pound La Belle Casing. This weight is equivalent to nearly 15,000 feet of casing suspended by top threads, almost twice the length of the deepest oil-producing well in history.

Testing two short pieces connected by a steel coupling, a pull of 249,930 lbs. was required to part the joints. This weight is equivalent to a string of casing more than 10,000 feet in length —longer than the longest string of casing in use today.

La Belle has the needed strength—and more. It insures pipe dependability for any well you drill.

WHEELING STEEL CORPORATION
WHEELING, WEST VIRGINIA
"From Mine to Market"



LA BELLE

CASING · TUBING · LINE PIPE

WILDCATS FROM ALL SECTIONS

NORTHERN CALIFORNIA

Completion

Sunset—
Bell-Wrightsman's test, wo 10 4750

Antelope Plains—W. H. Davis' 1, dr 2920 ft.

Bakersfield—Pacific-Eastern's K. C. L. 1, dr 3880 ft.

Belridge—Standard's Bacon 1, lcn. Zurich Oil Co.'s 1, dr 150 ft.

Buttonwillow—Milham Explo. Co.'s Salisbury 1, bldg rig.

Comanche Point—Kern 29 Oil Co.'s 1, sd 2440 ft.

Devils Den—Devils Den Prod. Co.'s 5, dr 1150 ft. Marathon Oil Co.'s 1, fsh 4390 ft. Midway Northern's 1, will skid rig 150 ft. R. H. Sayers' 1, dr 460 ft.

Elk Hills — McAdams Pet. Co.'s test, dr 3820 ft.

Gould Hills—A. J. Bomke's 1, sd 610 ft. Carolina-Western's 1, dr 1197 ft. Max L. Pray's 1, dr 851 ft. Rhoads Oil Co.'s 1, sd 1485 ft. L. E. Westrich's 1, dr 1665 ft.

Jasmine-Delano — Chanslor-Canfield's 1, dr 345 ft.

McKittrick—Abbott Pet. Co.'s 1, dr 1991 ft. Lacy-Esper Pet. Co.'s 1, stg 3260 ft. McKittrick Hills Co.'s 2, dr 2632 ft. Ridge Oil's 1, dr 3706 ft.

North Midway — Bolsa Chica Oil Co.'s 1, sd 185 ft.

Rosedale—Muroc Dev. Co.'s 1, cmt 30 ft.

Sunset—Fresno-Sunmaid Oil Co.'s 1, sd 4200 ft. Gore Oil Explo. Co.'s 1, dr 3210 ft. R. H. Whisten's 1, material on ground.

Shale Hills—Huntington-Hawthorne's 1, sd 408 ft. Nelson & Mountford's 1, dr 2355 ft. Oildale Oil Co.'s 1, sd 558 ft.

Temblor Hills—Fortuna Oil Co.'s 1, dr 2660 ft. Hovey Hills Oil Co.'s 1, sd 2540 ft.

Tehachapi-Mojave—C. R. Asmussen's 1, dr 1510 ft. Crusaders Oil Co.'s 1, temp. sd 2284 ft. John B. Harding's 1, dr 625 ft.

Upper Kern River—Commerce Oil & Leasing Co.'s 1, sd 2508 ft.

Upper Poso Creek — Dr. Buchner's 1, dr 930 ft.

FRESNO COUNTY

Clovis—Fresno-Madera Oil Co.'s 1, sd 3760 ft. W. W. Taylor's 1, stg 2100 ft.

Jacalitos Dome—Marland Oil Co.'s 1, stg cmt 3788 ft.

Rasin City—Fresno-United Oil Co.'s 1, stg 3961 ft.

Wartham—Bald Mountain Drlg. Co.'s 1, sd 905 ft. Progressive Oil Co.'s 1, sd 1105 ft.

KINGS COUNTY

Kettleman—Ahlburg Gasoline Co.'s 1, rigged. Associated Oil Co.'s 1, sd 2043 ft. Chanslor-Canfield's 1, dr out 610 ft. Bolsa Chica Oil Co.'s 1, stg 2360 ft. General's 1, dr 3162 ft; 2, building rig. Hugh McPhail's 1, prep to resume 1972 ft. Milham Explo. Co.'s 1, dr 529 ft.

VENTURA COUNTY

Camarillo—California Pet. Corp.'s Arniel 1, dr 1868 ft. Standard's Camarillo 1, dr 4926 ft.

Casitas-Ojai—Miley Explo. Co.'s Casitas 2, sd 568 ft.

Hopper Canyon—Hopper Canyon Oil Co.'s 1, stg 5006 ft.

Moorpark — E. A. Parkford's Lloyd 1, fsh 2275 ft. Shell Co.'s Berlywood 1, dr 2389 ft.

Montalvo—Standard's Montalvo 1, dr 4751 ft.

Piru—Superior Oil Co.'s Pena 1, dr 3210 ft.

Rincon — Montecito Oil Producers' 1, stg 3200 ft.

Sespe-Fillmore—Sespe Oil Co.'s Smith 2, sd 4003 ft.

Ventura Distirct—Rio Grande Oil Co.'s Canet, dr 4700 ft. Associated's Dabney-Lloyd 1, reaming 272 ft. Chanslor-Canfield's Hobson 1, re-dr 5420 ft; Hobson 2, dr 3120 ft. Milham Explo. Co.'s Sexton 1, pulling 6¼ in. 7092 ft. Star Pet. Co.'s Canet 1, cutting out dr pipe 3210 ft.

Santa Barbara County—Channell Oil & Dev. Co.'s 1, co 4820 ft. Hollywood Oil Corp.'s 1, stg 1280 ft. Summerland Oil Co.'s Becker 1, dr 2743 ft.

San Luis Obispo County — Arroyo Grande Pet. Co.'s 1, co 4386 ft. Barneyberg Oil Co.'s 1, sd 4500 ft. Brinkman Oil Co.'s 1, dr 780 ft. Carlisle Oil Co.'s 1, sd 2680 ft. Mapes Holding Co.'s 1, stg 560 ft. Painted Hills Oil Co.'s 1, dr 1057 ft. E. G. Starr's 1, fsh 3570 ft. Richfield Oil Co.'s 1, rigging rotary 100 ft. Walklin Pet. Co.'s 1, fsh 2440 ft.

Monterey County—Petroleum Securities 1, dr 1790 ft.

Tulare County — Ducor Drlg Co.'s 1, re-dr 3735 ft. Federal Explo. Co.'s 1, r 5390 ft. J. W. Grafford's 1, sd 2525 ft. Ozena Oil Co.'s 1, dr 2300 ft. Wm. C. Resser's 1, planning to resume dr 1815 ft.

Sonoma County—Shell Co.'s Murphy 1, dr 4750 ft.

San Mateo County—Ashton & Craft's 1, dr 2200 ft. Big Bear Paraffine Co.'s 1, dr 745 ft. Shell Co.'s 1, dr 2265 ft.

SOUTHERN CALIFORNIA

Completion

Potrero—
Cal.-East'n O. Co.'s Smith-Bolger.. * 5282

Athens—Union's Mosier 1, fsh 5690 ft.

Bandini—Pan-American's Bandini 1, dr 5550 ft.

Boyle Heights—H. M. Green's P. A. S. F. 1, sd 1400 ft.

Claremont—O. & G. Co.'s 1, stg 1130 ft.

Coyote-West—Bastanchury Ranch Co.'s test, dr 4200 ft.

Davidson City—Cal. Well Drlg. Co.'s 1, dr 4990 ft.

Dominguez—Dominguez Extension Oil Co.'s 1, dr 5386 ft.

Downey—C. F. Ackers' Downey 1, sd 367 ft.

Eagle Rock—Calwin Oil Co.'s 1, rep rig 6135 ft.

El Segundo—Rider Synd.'s 1, sd 2300 ft. Southern Cal. Drlg. Co.'s 1, dr 4555 ft.

Gardena—Circle O. & G. Co.'s 1, sd 3360 ft.

Hawthorne—Winwell Oil Co.'s Dome 1, sd 5386 ft.

Irvine—Calny Oil Co.'s Irvine, sd 4247 ft.

Lawndale — Smith Pet. Co.'s Johnson, dr 6063 ft.

Lancaster—John B. Harding's 1, co 1860 ft.

Maywood—Magnolia Pet. Synd.'s Tweedy 1, stg 4452 ft.

Newhall-Saugus—W. W. Stabler's Castaic 1, fsh 3408 ft.

Palos Verdes—Petroleum Securities' Weston 1, stg cmt 667 ft.

Potrero—General Pet. Corp.'s Smith 1, dr. 4288 ft.

San Fernando—Standard's Uni. 1, dr 5744 ft.

San Jose Hills—Bardeen Oil Co.'s Didier 3, sd 1938 ft. D & B Oil Co.'s Amar 1, stg 3600 ft.

San Juan Capistrano—Norswing & Halbertson's Spitz 1, sd 4060 ft. O. K. Carr's 1, stg. 2414 ft.

Sunset Beach — General's Lomita, 1, dr 4737 tf.

Telegraph Canyon—Quadra Pet. Co.'s MJM 1, sd 4210 ft.

Topango Canyon—Standard's Austin 1, dr 2460 ft.

Riverside County—Corona Oil & Gas Test's 1, sd 1550 ft. Spindletop Oil Synd.'s 1, plugging 10 in. 2650 ft. Trabuco Oil Co.'s 1, dr 1981 ft.

San Bernardino County — Como Oil Co.'s Cajon 1, sd 1380 ft. Colton Terrace's Colton 1, stg 1320 ft. Hesperia O. & G. Co.'s 1A, sd 3312 ft. H. & P. Oil Co.'s McCarty 1, milling on disc. 1260 ft. Western Pacific Oil Co.'s 3, dr 2883 ft.

San Diego County—Cardiff Oil Corp.'s Turner 1, dr. 2400 ft. Randall-McGregor's 1, stg. cmt. 1677 ft.

NOTE—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡salt water; †—junked and abandoned; ¶—million cubic feet of gas; abn—abandoned; bbls—barrels; b. s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

MOUNTAIN STATES

WYOMING

California Co.'s Garland 1, ne 15-44-97, oil showing, td 3805 ft. Wyoming-Montana Dev. Co.'s Lance Creek 1, ne 7-35-65, dr. Criterion Oil Co.'s Douglas 1, ne 5-31-70, wtg on diamond drill, td 3102 ft. Graybeal Oil Synd.'s Graybeal 1, dr 3012 ft. Elkhorn Oil Co.'s La Barge 1, 7-28-111, dr 3250 ft. Iowa-Montana Invt. Co.'s Megown 1, ne 30-1-2, sd 3300 ft. Alevizaker-Slagle's Basin 1, 25-51-93, lcn. Union's Black Mountain 1-S, nw 34-43-91, dr 4040 ft; Fremont County 1-C, ne 15-5-1, dr 4376 ft; Fremont County 1-B, nw 28-43-91, dr 2588 ft; Park County 1-T, nw 22-47-101, dr 739 ft. Platte River Dr. Assn's Guernsey 1, nw 12-26-67, will abn. Fairway Oil Co.'s Crazy Woman 1, ne 7-47-82, sd 1202 ft. McPherson Oil Co.'s Little Sand Draw 1, nw 2-44-96, dr 2785 ft. Prairie's Mahoney 1, 34-26-88, fsh 2885 ft. Texas Prod. Co.'s Maverick Springs 7, 26-6-101, dr 1535 ft. Carroll Synd.'s Crook County 1, 5-51-67, will resume dr, td 785 ft. Wellington Oil Co.'s Bear Creek 1, nw 18-25-98, sd 2540 ft. Ohio's Byron 2, 35-56-99, fsh 2482 ft; Rock Creek 12, 2-19-78, dr 1400 ft; Rock Creek 5, 3-19-78, dr 2500 ft. Carter's Nowood 1, sw 5-48-90, dr 1830 ft; Billy Creek 2, se 17-48-82, co 4400 ft. Producers & Refiners' Tensleep 1, 13-46-89, rig; Garland 2, 24-56-89, sd 2640 ft; Medicine Bow 1, 25-21-79, setting 6⅝-inch cas 3710 ft; Muskrat 1, 34-34-92, rig; Murphy 1, 8-43-91, fsh 2990 ft.

COLORADO

Platte Valley Pet. Co.'s Weld County 1, 24-6-61, setting 8¼-inch cas 2222 ft. E. J. Miley's La Plata County 1, 32-33-12, fsh 3260 ft. Tidewater-Associated's Rangely 1, 24-2-103, testing 3740-60 ft. Texas' Rangely 2, 30-2-102, dr 2955 ft; Moffat County 1-F, 27-3-94, cmt 3150 ft. Uncle Joe Oil Co.'s Florence 1, 35-18-70, dr 233 ft. Foley & Goldsworthy's Las Animas County 1, 11-30-60, dr 915 ft. Poudre River Oil Co.'s Larimer County 1, 33-8-69, dr 3215 ft. Midwest's Rio Blanco County 2, 30-2-102, dr 2960 ft. Oliferous Oil Co.'s Florence 1-K, 38-18-70, dr 100 ft; Florence 1-L, 36-18-70, dr 1568 ft. Mojada Oil & Gas Co.'s Fremont 3, 21-20-69, commercial production, td 1637 ft. Continental's Walden 1-P, 2-8-76, sd 105 ft.

NEW MEXICO

Marland's Artesia 1-H, 11-20-30, dr 425 ft. Cap Rock O. & G. Co.'s Lea County 1, 11-16-32, dr 922 ft. Midwest's McKinley County 1, 1-17-9, fsh 1575 ft; Quay County 1, 30-8-31, dr 1300 ft. Exploration Co.'s Lea County 1, 25-19-35, dr 1366 ft. Continental's Table Mesa 11, 3-27-17, sd 1310 ft. Gibson Oil Corp.'s Chaves County 1, 8-11-23, sd 677 ft; Quay County 1, 25-8-32, dr 1320 ft. Texas' Chaves County 1, 29-17-18, dr 3300 ft. W. A. Stone Oil Co.'s Artesia 1, 25-17-26, dr 416 ft. Henderson-Dexter-Blair's Lea County 1, 34-17-33, dr 4512 ft. Maljamar O. & G. Co.'s Lea County 1-B, 15-17-32, rig. Covert Synd.'s Lea County 1, 15-21-33, dr 1865 ft. Prairie's Artesia 1, 10-17-31, will shoot at 3480 ft. Ingle & Bridges' Lea County 1, 4-17-34, sd 4730 ft.

UTAH

Deseret Pet. Co.'s Gibson 1, 3-30-29, sd 515 ft. Utah-Southern's Cedar Mesa 1, 28-40-18, dr 1978 ft. Union's Lisbon 1, 16-30-26, rig. Boulder Knoll O. & G. Co.'s Boulder Knoll 1, 17-34-24, sd 1902 ft. Utah Pet.'s Gibson 1, 1-30-20, dr 1375 ft. Embar Oil Co.'s Moab 1, 34-25-21, dr 3145 ft. Midwest's Cane Creek 1, 5-27-21, dr 850 ft. Frances-Utah Pet.'s Hulkito 1, 3-20-29, dr 1565 ft.

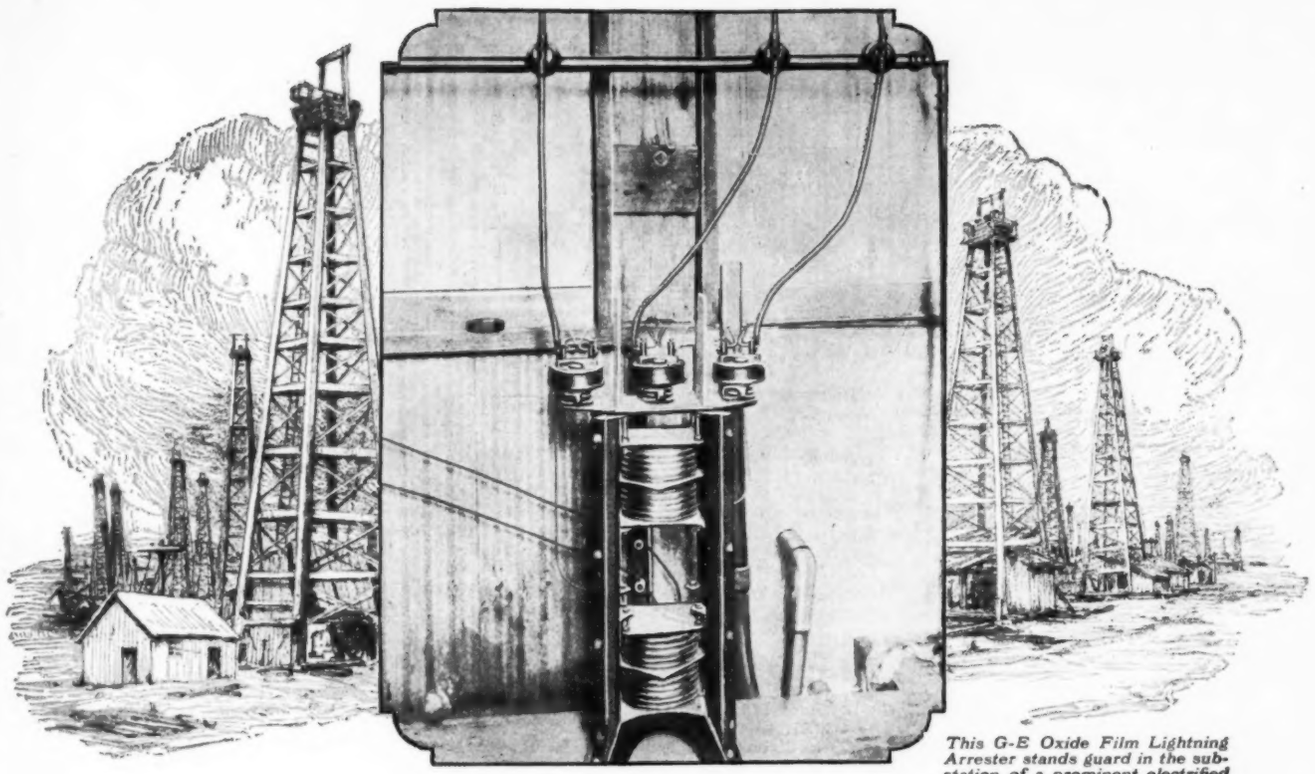
OKLAHOMA

Beckham County—Magnolia's 1, ne 21-9-23, lcn.

Caddo County—W. J. Hartley's Calbreath 1, se ne se 28-5-12, owd, sd 3394 ft. J. A. Abernathey's 1, sw ne 23-5-12, dr 2250 ft.

Canadian County—T. B. Slick et al's Pazourock 1, sw ne 29-13-5, dr 4550 ft. Ramsey's Harmon 1, se 28-11-5, spudding.

Cleveland County—Sooner's 1, sw 15-7-1, td



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440-3

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, SCHENECTADY, N. Y., SALES OFFICES IN PRINCIPAL CITIES

2974 ft, fsh 8-inch cas. Magonlia's 1, sw 11-6-1, dr 2465 ft. Mid-Continent's 1, sw nw 20-8-1, bldg rig, changed lcn. Geo. Brown's 1, center 7-9-1, dr 1740 ft. Wiser's 1, sw nw 24-6-1, spd.

Comanche County—Mid-Kansas' Cox 1, ne se ne 20-1-12, td 1920 ft, sd.

Garfield County—Sinclair's Fee 1, sw sw ne 2-20-5, pulling 5-inch 5018 ft.

Grant County—Ostot Dev. Co.'s Snyder 1, ne 6-28-4, td 4546 ft, fsh 5-inch. Brazell & Moses' Royce 1, sw nw 34-28-4, sd 550 ft. Dedman et al's Sherran 1, ne sw 16-26-3, sd 1910 ft.

Hughes County — Snowden & McSweeney's Stewart 1, nw se 11-5-9, proposed lcn.

Kiowa County—A. C. Varner's Boham 1, se sw nw nw 5-6-10, sd 1123 ft.

Kingfisher County — Pet. Eng. Core Drlg. Co.'s Canfield 1, nw se 6-16-7, rig. McKenna et al's Sturgeon 1, nw sw 27-16-6, sd 2115 ft. Reiter et al's Davisonal 1, sw 23-15-5, rig, (T. B. Slick taken over).

Kay County—Ponca Lee's McNeal 1, ne 32-26-2, td 2795 ft, sd. Tonkawa Dev. Co.'s McDaniels 1, se se se 15-25-1, hfw 2450-75 ft, sd.

Lincoln County—Wentz's Lukenbeal 1, sw se 34-17-2, dr 4785 ft.

Logan County—T. B. Slick's Berry 1, sw se 28-17-1, sand 4658-61 ft, 2800 ft oih, run 5-inch. Blackford's Lier 1, se 28-16-1, sd 1675 ft, litigation. Roxana's McCullough 1, sw ne se 30-18-4, dr 5350 ft. Bryan & Emery's 1, nw se 33-19-4, dr plug and water broke in. Carter's Rogers 1, sw ne sw 32-19-3, dr 4990 ft. Brown & Blevens' Lovell 1, sw nw 9-18-4, dr 4036 ft, show water. Healdton's Braggs 1, nw se 16-18-4, dr 3120 ft. T-P's Jewell 1, nw ne nw 27-18-4, rig; Speaks 1, se nw 33-18-4, spd. Haley et al's Quair 1, sw se 33-18-3, td 1900 ft, rig rebuilt and co. Zingery et al's Baker 1, nw ne 5-17-1, show oil 5540 ft, dr 5593 ft.

Cimmaron County—Jake Phillips' 1, nw 24-6-2, dr 1635 ft. Sinclair's 1, nw 22-5-2, spd. Ramsey Bros.' St. Land 1, nw ne 27-5-5, top 4095 ft, td 4150 ft. Ramsey Pet. Co.'s School land 1, sec 4-5-6, dr 1680 ft. Gladys Belle's Israel 1, sw ne 25-3-7, dr 1920 ft. Fenton et al's Smalta 1, se ne ne spd and sd.

Payne County—Twin State's Tibler 1, ne nw ne 23-18-1, dr 2820 ft.

Noble County—Miller's 101 Ranch 1, ne 1-24-1, td 4475-4476 ft, no show.

Pottawatomie County—Shaffer et al's Ives 1, ne se se 12-10-3, sd 3620 ft. Davis et al's McGrathy 1, se nw 10-6-3, td 3890 ft, sd. I. T. I. O. Co.'s School land 1, se sw 16-8-5, cementing 8-inch cas 2573 ft. Sinclair's Bowers 1, nw se 7-7-5, dr 1650 ft. Roxana's 1, nw sw 22-7-5, cementing 8-inch cas 3600 ft. Magnolia's School land 1, sw se 36-7-3, td 300 ft, fsh.

Seminole County—Barnsdall's Sullivan 1, ne sw 10-9-5, cementing 8-inch cas 3443 ft. Carter's Harjocke 1, ne nw nw 26-10-6, Misner sand 4307 ft, hl 4320-30 ft. Superior's Noble 1, se sw se 10-9-6, dr 3377 ft. Pure's Joah 1, c e l nw ne 15-9-7, td 3494-3513 ft, 10 bbls oil, 30 bbls water. Magnolia's Strothers 1, se nw 17-8-6, fsh 2600 ft. I. T. I. O. Co.'s Sandlin 1, ne ne 9-7-6, sd; House 1, nw nw nw 1-7-6, td 3185 ft, moving in campage tools; Sarah Wiseman 1, nw nsw 32-7-7, 2505 ft, co. Kennedy et al's Neley 1, c s½ ne se 24-5-5, top sandy lime 2839- ft, td 2915 ft. Simmons et al's Lammeter 1, nw ne ne 7-7-8, rig.

Tillman County—Ossie Drilling Co.'s Snelling 1, se 13-1-18, sd 1525 ft. P. C. Dean et al's Deaner 1, c se se 21-3-16, dr 1975 ft. Pearson's Nonts 1, sw 3-5-15, lcn.

Texas County—H. F. Wilcox's Zea 1, sw se 29-3-12, ur 6-inch at 3620 ft. Haley et al's Ellison 1, nw se se 4-1-12, dr 3675 ft. Connell et al's Tensey 1, se nw 5-1-19, spd and sd.

Pontotoc County—American Oil Co.'s Roy 1, se nw 34-5-6, sd 2000 ft. Bowles et al's Lewis 1, c se sw 29-5-5, sd. Tom Slick's Carham 1, sw se 21-5-6, dr 450 ft. W. R. Ramsey's Butler 1, ne ne 20-5-8, dr 875 ft. Shaw et al's 1, ne sw 33-5-6, fsh at 86 ft.

KANSAS

Barber County—Vickers Pet. Co. et al's Ott 1, sw 30-32-14, ur 4506 ft.

Barton County—Huffin et al's Smith 1, ne se se 17-19-11, fsh 5090 ft.

Butler County — Burford & Brimm et al's Lambert 1, sw se sw 20-25-7, sp.

Cowley County—W. M. Neeley's Henderson 1, c nw ne 5-33-5, ts 1025 ft, ¶2.

Lyons County—Culp et al's 1, sw se 26-19-10, dr 4090 ft. Gashe & Balliere's Stratton 1, se nw 32-20-13, dr 1210 ft.

Reno County—Sheldon et al's Hanfison 1, se nw 10-23-4, 6 in. 4002 ft.

Russell County—Wilcox Russell's Wilson 1, se sw 14-12-13, ur 3631 ft.

Seward County—Wilson et al's Son 1, ne ne ne 14-33-33, sd 400 ft.

Marion County—Skow Bros.' Williams 1, ne sw 4-17-4, lcn.

McPherson County — McLaughlin et al's Ross 1, se 12-19-3, sp and sd. Merrian et al's 1, swc sw sw 29-18-2, td 2931-61, fsh.

Sedgewick County—Marland et al's Schmidt 1, nw sw sw 5-28-1, sp.

ARKANSAS

Completions

Columbia County—		
Arkansas Fuel Oil Co., Barge 1, 14-18-22	*	3271
Union County—		
Magnolia, Childs 6, 8-16-16	*	3000

Ashley County—Rhodes et al's Bledsoe 1, 20-15-7, sd 2554 ft.

Bradley County—Arkansas Fuel Oil Co.'s Arkansas Lbr. Co. 1, 25-16-12, sd 3144 ft. Johnson & Adams' Southern Lbr. Co. 1, 12-12-12, fsh 1530 ft. Magnolia's Arkansas Timber Co. 1, 35-15-11, dr 4310 ft.

Columbia County—Colguitt et al's Duffer 1, 23-18-19, set 12½-inch 108 ft. Columbia Synd.'s Whitehead 1, 14-19-23, dr 2340 ft. Haynes et al's Runyon 1, 3-16-21, sd 150 ft. Mair et al's Gantt 1, 15-17-22, dk. Mitchell et al's Franks 1, 25-19-22, sd 150 ft. Scott-Phillips Davis 2, 6-18-20, sd 2145 ft. Wingfield et al's Bodcaw 1, 4-20-21, sd 2025 ft.

Clark County—Whelen Oil Co.'s Barrow 1, 35-10-20, dr 660 ft.

Drew County—McClintock et al's Ogle 1, 35-13-5, sd 2550 ft.

Grant County—Jones et al's Meek 1, 5-4-11, rig.

Garland County—Chaywood Oil Co.'s Malvern Lbr. Co. 1, 17-2-17, set 10-inch at 66 ft.

Hempstead County—Burton et al's Garland 1, 23-10-25, sd 2210 ft.

La Fayette County—Arkansas Fuel Oil Co.'s Duty 1, 11-19-25, set 10-inch 80 ft. Ken-Saw Pet. Co.'s Red River Lbr. Co. 2, 5-20-24, sd 2840 ft.

Lincoln County—Pine Prairie Oil & Gas Co.'s Carter 1, 33-10-6, sd 240 ft.

Little River County—Greeson et al's Waldrip 1, 4-13-31, sd 1740 ft. Grote et al's Allen 1, 2-13-31, sd 2941 ft. Johnson et al's Hawkins 1, 10-11-31, sd 1594 ft.

Miller County—Lenze et al's Dale 2, 28-15-26, r 2765 ft. W. D. Nash's Priest 1, 26-14-26, sd 3850 ft.

Nevada County—Fruen et al's Cross 1, 12-13-22, sd 1720 ft; Rhodes 1, 22-12-21, sd 1900 ft. Holmes et al's Wallace 1, 11-14-21, sd 1200 ft. Humble O. & R. Co.'s Bodcaw 4, 9-15-22, r 3601 ft. Martin et al's Haynie 1, 6-14-20, wosr 1160 ft.

Ouachita County—Copenhagen et al's Berg 3, 13-15-17, dk. J. E. Crosby's Berry 12, 33-15-15, coring 4191 ft. Exchange Oil Co.'s Umstead 3- 4-16-15, dk. A. T. Grayson's Reynolds 1, 21-14-17, set 6-inch 1744 ft. Gulf Ref. Co.'s Bennett 10, 33-15-15, wosr 2364 ft. Imperial O. & G. Co.'s McClanahan 9, 6-16-15, set 4¼-inch at 2666 ft. W. R. Keever's Hicks 1, 27-15-16, cementing off bottom at 2290 ft. Magnolia's Gosden 2, 15-15-19, re-cemented 8¼-inch cas at 1542 ft. Marine Oil Co.'s Umsted 11, 5-16-15, set 10-inch 122 ft. J. D. Reynolds' Chandler 1, 3-14-18, sd 1850 ft. A. M. Sutton's Schoolhouse 2, 28-15-16, sd 3060 ft. T. & P. Coal & Oil Co.'s Laney 9, 31-15-15, dr 2475 ft. Unity Pet. Co.'s Umsted A-8, 33-15-15, dr 2388 ft, ; Murphy 1, 2-16-15, coring 2660 ft. Wesson et al's Culp 1, 22-15-19, set 6⅝-inch at 2123 ft.

Union County—C. H. Allison's Howard 1, 8-19-13, sd 15 ft. Arkansas Fuel Oil Co.'s La Grone 8, 1-16-17, dk. Bondurant et al's Garner 1, 8-18-12, r 2635 ft. Crescent Oil Co.'s Saxon 1, 5-16-16, sd 53 ft. Garrett & Modisette's Union Saw Mill 1, 7-18-13, coring 3355 ft. W. H. Gilliland's Hodges B-1, 1-16-17, set 6-inch 2525 ft. Gulf Ref. Co.'s Murphy 23, 9-16-15, dr 2415 ft. Humble O. & R. Co.'s Flenniken B-2, 9-16-15, set 4¾-inch 2750 ft. Imperial O. & G. Co.'s Murphy 7, 9-16-15, set 4¾-inch at 2697 ft; Murphy 5, 9-16-15, fsh 2565 ft; Goodwin 1, 22-17-16, sd 3118 ft. Hollyfield et al's Murphy 2, 9-16-15, cemented short string of 4½-inch at 2738 ft. Keen & Wolfe's Murphy 5, 9-16-15, rig. Lion O. & R. Co.'s Bilyew C-7, 8-16-15, dk; Flenniken A-9, 10-16-15, tested sw 2391 ft; Lowton A-11, 10-16-15, rig; Murphy H-2, 9-16-15, cemented off bottom 2288 ft; H. Murphy 6, 9-16-15, arr to deepen 2712 ft. Louisiana Oil Ref. Corp.'s Murphy B-3, 9-16-15, wosr 2740 ft. Magnolia's Crawford 2, (formerly So. Oil Co.'s Rumph) 8-16-16, set 10-inch at 276 ft; Crawford 3, 8-16-16, dk; Freeman 3, 7-16-16, set 10-inch at 275 ft; Nicol Childs 1, 8-16-16, sd 2700 ft; Laney 3, 8-16-16, dk; Laney 4, 8-16-16, dk; Murphy 3, 8-16-15, dk; Murphy 9, 8-16-15, set 13⅜-inch at 302 ft; Saxon 4, 5-16-15, set 6⅝-inch at 2253 ft; Wilson 6, 17-16-15, set 13⅜-inch at 300 ft; Wilson 7, 17-16-15, dk. Marine Oil Co.'s Winn Estate B-1, 10-18-13, arr to lubricate sand at 2691 ft; Thompson a-2, 10-18-13, set 12½-inch at 149 ft. J. L. Meek's Milner 2, 15-17-16, rig. Mountz et al's Pratt 6, 8-18-15, dr 703 ft. O. G. Murphy's T. C. Murphy 6, 9-16-15, setting 4¾-inch at 2260 ft. National Consolidated Pet. Co.'s Fagg 2, 8-16-16, set 6-inch at 2628 ft. Natural Gas & Fuel Corp.'s Flenniken 4, 8-16-15, stuck ds 2765 ft; Murphy F-1, 9-16-15, arr to deepen with cable tools 2773 ft; Bilyew 4, 9-16-15, milling out casing 1300 ft. Ohio Oil Co.'s Crain 1, 1-17-14, dr 3014 ft; Murphy 4, 9-16-15, setting 4¾-inch at 2692 ft. J. W. Olvey's Simmons 1, 15-18-13, set 8¼-inch at 2641 ft. Peer Oil Co.'s Palmer B-1, 9-16-15, milling out casing 2341 ft. Roxana Pet. Co.'s Flenniken 3-A, 10-16-15, re-cemented 6-inch at 2598 ft. Rovenger Oil Corp.'s Harrel 4, 14-17-16, dk; McClain 1, 4-17-14, dr 2445 ft. Simms Oil Co.'s Crawford 1, 14-18-13, rig. Stewart et al's Murphy 8, 9-16-15, set 10-inch at 80 ft. Sunny Jim Oil Co.'s Flenniken 4, 9-16-15, arr to abn 2365 ft. Superior Oil Co.'s Jerry 1, 32-17-13, sd 3022 ft; Cordell 2, 5-18-13, arr to test 2707 ft. Sun Oil Co.'s Hays 3, 3-16-15, perforating casing 2293 ft; Hays 20, 3-16-15, wosr 2351 ft. Unity Pet. Co.'s Roper 15, 3-16-15, dk. Wingfield et al's Green 1, 15-19-13, dk.

LOUISIANA

Completions

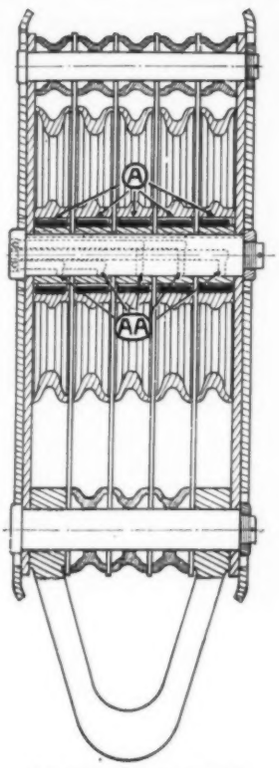
Bossier Parish—		
Anderson et al, Bulkley 1, 9-20-13..	*	2040
Caddo Parish—		
Brogden et al, McMillan 1, 11-16-14	*	628
Gulf, Wemple 3, 14-20-15	*	2265
H. H. Morris, Fields 1, 24-22-15...	*	1070
Victor Wenzles, Thomas 3, 15-20-15	*	....
Caldwell Parish—		
Victor Wenzles, Shaw 1, 22-14-4e ..	*	1630
Winn Parish—		
Greer et al, Bodcaw Lbr. Co. 1, 9-114w	*	3110

Bienville Parish—S. F. Bogden's L&A 2, 9-15-7, dk. Kimbrough et al's Cargyle 1, 27-15-8, sd 1550 ft.

Bossier Parish—Bethany O. & G. Co.'s Dodson 1, 16-23-12, set 6 in. 3078 ft. Clark & Norton's Ford 1, 32-23-12, dr 2235 ft. Doern et al's Thomas 1, 9-22-11, set 6 in 2760 ft. Glassell et al's Gibson-Tiguer 1, 14-21-14, set 10-in 100 ft. Gulf's Hodges 6, 24-16-12, set 4½ in 1865 ft. Harrell Drlg. Co.'s Atkinson 1, 2-18-12, sd 1220 ft. Humble's B&W 30, 15-19-11, dr 186 ft. Louisiana Oil Ref. Corp.'s Blanton 1, 23-23-12, set 6⅝ in 3080 ft. Magnolia's Dodson 1, 15-23-12, dr 21215 ft. Palmer Corp.'s Bossier Lbr. Co. 3, 9-16-11, arr abd 3832 ft. Sligo Synd.'s Webb 1, 24-17-12, sd 2382 ft. Jeter 1, 23-17-12, dk. Simms' Sandidge 2, 5-18-11, tested 1031 ft. Texas Co.'s Caplis 14, 24-16-12, set 6 in. 1545 ft. Tubbs et al's Jacobs 1, 26-20-13, dr 1900 ft. Triangle Drlg. Co.'s Levy 1, 13-20-14, set 12½ in. 118 ft.

Caddo Parish—Big Lake Oil Co.'s Rhodessa 1, 23-23-16, tested ‡2555 ft. Bahan et al's Wilburn 1, 4-7-16, dk; Wilburn 2, 4-7-16, rig. Bethany O&G Co.'s Offenhauser 1, 1-20-16, dr 2190 ft. Berston's Murff 6, 12-21-16 dr 930 ft. Burford et al's Dambley 1, 2-20-16, dr 2100 ft. Dixie Oil Co.'s Robertshaw 81, 13-21-15, dr 3739 ft. Robertshaw 86, 14-21-15, dk. Slattery 10, 27-21-15, coring 3834 ft; Noel A-2, 13-21-15, coring 3641 ft. Dodson et al's Rives 4, 5-20-16, set 6 in 1826 ft. Double I Oil Co.'s Spell 10, 15-21-15, lcn. Empire Gas & Fuel Co.'s Levee Board B 1, 36-21-16, set 15⅝ in. 20 ft. J. B. Files Payne 1, 35-23-16, sd 925

NEW Baash-Ross *Roller Bearing* BRONZE CAGE Traveling Block

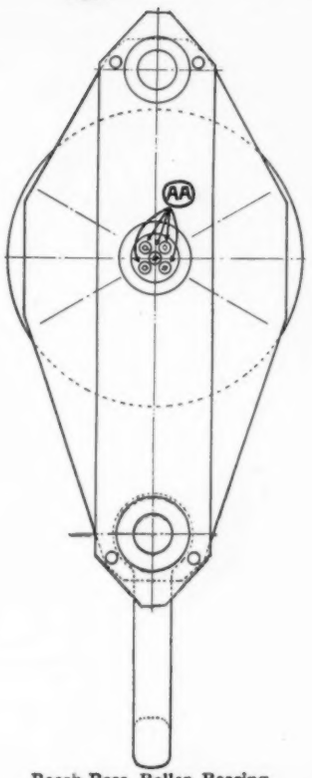


Cross Section of Block

Another Baash-Ross achievement—an entirely new type roller bearing block presenting many points of merit. The new and outstanding departure from conventional practice is the BAASH-ROSS BRONZE CAGE shown below. This bronze cage keeps each individual roller bearing evenly disposed around the case hardened inner race. Rollers can't bunch up. All carry their load where it should be carried, reducing friction and wear to a minimum.

Baash-Ross Roller Bearing Bronze Cage Traveling Block is built for the hardest service. It will render long continuous service and reduce bearing friction to the minimum.

We want to tell you more about this new Block and other Baash-Ross tools and equipment which contribute to efficiency, economy and speed. Write us for particulars.

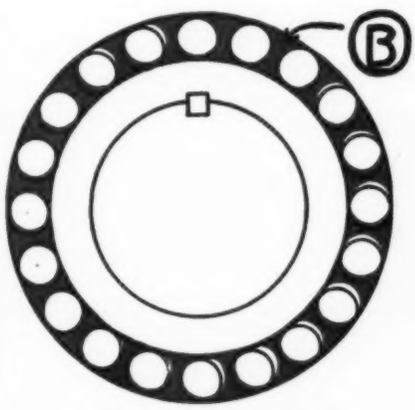


Baash-Ross Roller Bearing Bronze Cage Traveling Block

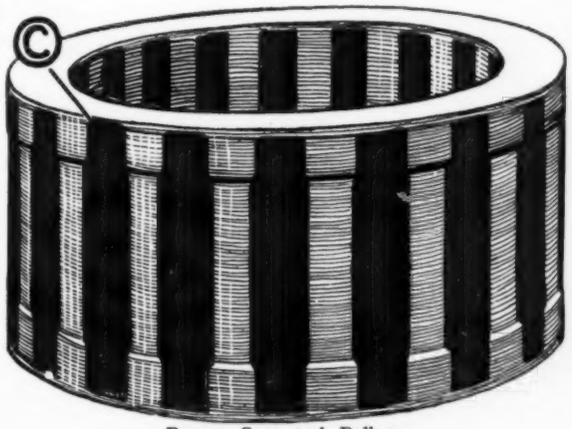
Brief Specifications
66", 4 or 5 Sheave Traveling Block

36" Manganese Steel Sheaves
1" Side Plates and Bars
5" Center Pin
9" Diameter Bronze Cage with twenty 1" Rollers Alemite Lubrication to each individual bearing.

A. Individual bearings and cages on each sheave.
AA. Individual alemite lubrication to each sheave and set of bearings.
B. Showing how the bronze cage keeps the roller bearings evenly spaced around the case hardened inner race.
C. Detail of bronze cage and rollers, showing how the cage keeps each roller evenly spaced. Every roller gets its full share of lubrication.



Cross Section of Bronze Cage



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ft. A. C. Glassell's Thigpen & Herald 1, 26-18-16, set 10 in 90 ft. Gilliam Synd.'s Sellington 1, 27-21-14, sd 2732 ft; Taylor 1, 17-21-14, set 6 in 880 ft. Gulf's Ferry Lake 266, 28-20-16, set 6⅝ in 2141 ft; Ferry Lake 267, 28-20-16, set 10 in 151 ft; Tyson 13, 14-21-15, rig. Haynes Bros.' La. L. S. & P. 1, 8-19-16, sd 3712 ft. N. M. Handcock's Hampton 1, 15-21-15, dr 1565 ft. Magnolia Petroleum Co.'s Caddo L. B. 2, 8-20-15, set 4½ in- 2910 ft; Dillon 16, 24-21-15, blg 1750 ft; Dillon 18, 24-21-12, dk; Dillon 20, 24-21-15, set 8⅝ in 109 ft; Doan Thigpen 17, 6-20-15, wosr 1620 ft; Planters 4, 7-21-14, dr 2167 ft; Robertshaw 20, 23-21-15, dr 2023 ft. H. I. Morgan's Glassell 1, 10-20-15, set 10 in 63 ft. H. H. Morris Field's 2, 24-22-15, lcn. Ohio Oil Co.'s Murray 3, 28-21-15, wosr 1606 ft. Moodie Fortner 1, 5-22-16, set 10 in. 205 ft; Wilburn 3, 4-17-16, lcn; Bell 1, 5-17-16, rig. Shreveport Oil Corp.'s State 1, 28-21-16, dk; State 2, 27-21-15 sd 510 ft. Standard Oil Co.'s Trosper 1, 34-18-16, dr 2680 ft; Stiles 178, 33-21-16, set 6-inch 1788 ft; Stiles 181, 33-21-16, dk. Standish Oil Co.'s Allen 11, 23-22-15, set 10 in. 100 ft. The Texas Co.'s C. M. L. 47, 23-21-15, sell 2, 14-20-15, fsh 2960 ft; Hardy 1, 10-26-16, r 3626 ft. Curtis 6, 14-20-15, dr 1862 ft: Glassell 2, 14-20-15, fsh 2960 ft; Hardy 1, 10-20-16, blg 2282 ft; Herndon 5, 14-21-15, blew in making ¶30 and 500 bbls oil, caught fire. Herndon 6, 22-21-15, dk; Hicks & Payne 5, 21-21-15 dr 3143 ft; Harrell 56, 4-21-16, sd 2408 ft. Thomason et al's Muslow Fee 7, 31-21-15, dr 2180 ft. Victor Wenzel's Thomas 4, 15-20-15, dk.

Caldwell Parish — Humble's Louisiana Central Lbr. Co. A-4, 12-11-2e, dr 1660 ft. Southern C.O.P. Co.'s Caldwell L & T Co. 8, 5-13-5e, rig.

Catahoula Parish—S. D. Hunter's Tensas Delta 2, 21-9n-7e, rig. Lochnager O. & G. Co.'s Beazley 1, 26-9n-6e , sd 3093 ft.

Claiborne Parish — Brown et al's Beard 1, 28-19-5, sd 2500 ft. El Dorado Chief Oil Co.'s McElwee 1, 13-23-7, sd 3040 ft. Magnolia Pet. Co.'s Lee 1, 16-22-8, dr 3070 ft. Mitchell et al's Wilburn 1, 23-17-7, sd 2220 ft.

DeSoto Parish—Craige et al's Riggs 1, 27-15 13, dr 3205 ft. Dixie Oil Co.'s Jenkins 1, 9-12-11, fsh 5283 ft. Helm & Jarmen's Joyner 1, 28-12-11, fsh 3005 ft. Magnolia Pet. Co.'s Logan 1, 17-10-12, rig. W. M. Sebastian Synd.'s D. H. Sebastion 1, 11-10-13, set 10 in. 144 ft. Seip et al's Robertson 1, 18-10-12, set 10 in. 60 ft.

Franklin Parish — Exploration Oil Co.'s Moore 1, 12-11-6e, set 6 in. 2120 ft. Harrell & Hall's Duncan 1, 20-13-7e, sd 2057 ft. Robinson & Long's Baker 1, 3-15-7e, sd 1443 ft.

Grant Parish—Gulf's Swope B-1, 1-9-1w, set 10 in 147 ft; Swope B-2, 12-9-1w, set 10 in. 164 ft. Rue et al's Elias & Williams 1, 10-7-4w, dr 1360 ft. M. B. Swope's Fee 1, 18-9-1e, rig.

Jackson Parish—Grigsby et al's Adams 1, 22-17-4w, sd 2900 ft. Houseman et al's Norton 1, 34-15-3w, sd 400 ft. Ferguson Trust's Martin 1, 3-15-1e, flowing ‡. Louisiana Pet. Co.'s Davis Lbr. Co.'s 3, sd 2301 ft.

LaSalle Parish—Ayers et al's Tremont 4, 30-10-2e, set 10 in. 100 ft. Modisett Drlg. Co.'s Urania 4, 7-10-2e, set 10-inch 100 ft. Tunica Pet Co.'s L & A 23, 9-7-2e, dr 1500 ft L & A 25, 8-83e, set 10 in 60 ft. Wingfield et al's Urania 6, 2-9-1e, dr 1450 ft.

Morehouse Parish — Consolidated Carbon Co.'s White 1, 16-20-4e, lost hole and skidded rig. Louisiana Development Co.'s Fee 38, 21-20-5e, set 12 in 185 ft. Ouachita Nat. Gas Co.'s Allison 8, 7-20-5e, dr 2206 ft. Standard Oil Co.'s Interstate 4, 9-19-8e, dr 1544 ft. United Carbon Co.'s Townsend 1, 29-21-5e, set 12 in 182 ft; Atkins 1, 26-20-5e, dk.

Nachitoches Parish—Gulf Ref. Co.'s Cobbie & Hardaman 1, 9-7-7w, rig. Lawson et al's Clark & Morse Lbr Co. 1, 23-5-6w, washing 2528 ft. Ohio Oil Co.'s L & A 1, 23-13-6w, dr 2856 ft; Thomas 1, 23-13-6w, dr 75 ft. Reidheimer et al's Wafer 1, 3-11-8, r 1462 ft. Three League Oil Co.'s Long 1, 34-10-8w, rig. Tunica Pet. Co.'s L & A 24, 35-13-6w, dr 2333 ft. Wenzel et al's Brown 1, 38-10-7w, dk.

Ouachita Parish—Easterling et al's Sicard 1, 18-18-4e, set 6 in 2200 ft. — La. Dev. Co.'s Fee 39, 1-19-4e, set 12 in 190 ft. La. Gas Prod. Co.'s Dewdrop 5, 20-20-5e, dk. Ouachita Nat. Gas Co.'s E'Arbonne 2, 25-19-2e, sd 2780 ft. Peerless Co.'s Moore 3, 29-20-4e, lcn.

Rapides Parish — Hincey et al's Barrow 1, 29-5-2e, sd 2800 ft. Minnesota Oil Corp.'s Wattermack 1, 7-5-3w, sd 1718 ft. Libuse Oil Co.'s Voda 1, 14-4-1e, sd 2550 ft.

Red River Parish—Alden Oil Co.'s Powell 1, 13-11-10, sd 2301 ft. Amerada Pet. Co.'s Long Bell Lbr. Co. 1, 5-13-9, dr 2655 ft. Gulf's Robinson 37, 25-13-11, blg 2485 ft; Kennedy 23, 24-13-11, rig. Magnolia's Continental Pelly 24, 6-12-10, set 6 in. 2679 ft. Phillips Pet. Co.'s Long Bell Lbr. Co. 1, 16-12-8, dr 2200 ft. The Texas Co.'s Brinkerhoff B-25, 30-13-0, dr 2518 ft.

Richland Parish—Gulf's Rhymes 2, 5-16-6e, set 10 in. 881 ft; Wayne L & T 1, 36-17-5e, coring 2352 ft; Seibert 1, 35-17-5e, dk; Seibert 2, 11-16-5 e, rig. S. D. Hunter's McCoy 1, 29-16-5e, set 4¾ in. 2427 ft. Seibert 1, 1-16-5e, sd 2358 ft. Helm et al's Tensas 1, 10-14-5e, dk. Louisiana Pet. Co.'s Binion 1, 22-17-6e, sd 2474 ft. Oliver et al's Hatch 1, 2-15-5e, trying to set cas 2316 ft. Ruston Drlg. Co.'s Earle 1, 5-16-6e, rig. Stovall Drlg. Co.'s Mitchell 1, 20-17-6e, dr 2068 ft. Standard Drlg. Co.'s Delta H. L. Co. 1, 22-16-7e, set 12½ in. 160 ft. Tex-La Carbon Co.'s Broughton 1, 1-15-6e, set 6-inch 2268 ft.

Sabine Parish — Arkansas Fuel Oil Co.'s Logan 2, 28-10-12,rig; Logan 3, 33-10-12, sd 3100 ft. Logan 4, 33-10-12, set 6⅝ in. 3155 ft. Logan 5, 28-10-12, 6⅝ in. 3108 ft. Beckman & Freeman's Logan 1, 28-10-12, set 10 in. 78 ft. Emlett et al's Bowman Hicks 5, 11-7-14, sd 4070 ft; Bowman Hicks 7, 11-7-14, arr to make Haliburton test 2623 ft; Sabine Lbr. Co.'s 1, 8-7-1e, dk. Lewis Clark Pet. Co.'s Wyatt 1, 23-5-12, sd 3140 ft. Magnolia's L. L. L. Co. 1, 11-6-11, dr 3202 ft; Hall 1, 33-10-12, dk. Moffitt et al's Moore 1, 5-9-12, dr 2060 ft. Ohio Oil Co.'s Cook 1, 34-10-12, dr 3296 ft.

Union Parish—Camette et al's Tugwell 1, 21-22-1e, dr 1525 ft. Clark Creek Pet. Co.'s Frost-Johnson 2, 9-23-1e, sd 2307 ft. Interstate Natural Gas Co.'s Parks 1, 23-20-3e, dk. Rhodes et al's Futch 1, 28-23-2w, sd 1970 ft. United Carbon Co.'s Raburn 1, 28-21-4e, dr 2110 ft. Ruston Drlg. Co.'s Gulley 1, 16-20-4e, sd 900 ft.

Webster Parish—Davis et al's Lee 1, 22-22-9, sd 2834 ft. Louisiana Oil Ref. Corp.'s Davis 1, 23-21-10, set 6⅝ in. 2556 ft; Cox 3, 23-21-10, dk. Northwest Louisiana Gas Co.'s Coyle 1, 21-21-10, set 6⅝ in. 2556 ft. Ohio Oil Co.'s Bank of Cotton Valley 2, 22-21-10, dk; Bank of Cotton Valley 4, 22-21-10, fsh 4573 ft. Woodley Pet. Co.'s Cox 1, 22-21-10, dr 4390 ft.

Winn Parish—Cherokee Pet. Co.'s Albritton 1, 27-10-1e, sd 900 ft. Dodge et al's Tremont 1, 35-13-3w, sd 1042 ft. Greerer et al's Bodcaw 2, 9-11-4w, rig. Humble's L & A 20, 27-10-2w, set 10 in. 79 ft. J. C. Long's Milam 1, 26-13-3w, sd 1450 ft. Ohio Oil Co.'s Edenborne 2, 4-12-1w, dr 4450 ft; McCarty 1, 5-12-1w, lcn. Rowe et al's Urania 1, 26-11-1e, dk. H. M. Roaks Southern Mineral Co. 1, 19-11-3w, dr 60 ft. F. A. Schuman's Albritton 1, 27-10-1e, sd 1518 ft. Standard Oil Co.'s Tremont 1, 1-12-2w, dr 3649 ft.

SOUTH LOUISIANA

Assumption Parish—Union Sul. Co.'s Parish School Board 1, r to set 10-in, 949 ft.

Calcasieu Parish—Union Sul. Co.'s Fee 720 Sulphur Dome, dr 4163 ft, gbo. Dr. Hintze's Beckenstein 1, Sulphur dome, dr 4100 ft gbo. Border Research Corp's Calcasieu Lake 1, dr 3927 ft, gbo. Gulf's Lutcher-Moore 5, Starks dome, dr 3205 ft, gbo; Industrial Lbr. Co. 1, Starks dome, dr 765 ft, sand and gravel.

Cameron Parish—Yount-Lee's Gulf Land 10, Hackberry, dr 3260 ft sand and shale; School Land 6, Hackberry, dr 4690 ft, rock; State Land 4, Hackberry, rigging up. Border Research Corp's Mallard Bay 1, dr 2690 ft, shale; Sabine Lake 1, no report. Union Sul. Co.'s Gulf Land 2, Hackberry, loc; Gulf Land 3, Hackberry, dr 1801 ft, gbo; R. Vincent 2, Hackberry, dr 1688 ft. rock; Little 1, Hackberry, dr 1739 ft, cavity.

Evangeline Parish—Texas' Guillory 2, Pine Prairie, running liner 4200 ft acc of leaky cas.

Jeff Davis Parish—Elton Oil Co.'s Buller 1, sd. 2065 ft. Estropal Oil Co.'s Duex 2, dr 2690 ft shale. Fred Getty's Lacasine Irri, no report.

Iberia Parish—Gulf's Broussard 1, Eagle Point, sd 3193 ft; State Z-2, Eagle Point, bldg dk. Calcasieu Oil Co.'s Schwing A-1, Eagle Point, dr 2596 ft, gbo and lime. Border Research Corp's Vermillion Bay 1, no report.

St Landry Parish—Bristol O&G Co.'s Breaus 1, sd, 3015 ft. Terre Bonne Gas Co.'s Whitman 1, sd 2650 ft.

St. Martin's Parish—Ohio Oil Co.'s Martin 1, sd acc high water.

St Mary Parish—Border Research Corp's Grand Lake 1, sd. 4207 ft.

TEXAS

GULF COAST

Austin County—Humble's Austin College 2, Raccoon Bend, dr 1680 ft, lime and gbo; Austin College 3, Raccoon Bend, dr plug 939 ft; Washington 1, Raccoon Bend, dr 1061 ft, water sand; Thompson 2, Raccoon Bend, prep to test, 981-97 ft, oil sand; Reese 2, Raccoon Bend, coring sand 1018 ft; Belleville School 1, Raccoon Bend, dr 1637 ft, lime and gbo; Woodley 1, Raccoon Bend, lc; Deutrich 1, Raccoon Bend, lc. Mewis et al's Mewis 1, 3 mi e Belleville, dr 602 ft sand and bldrs. Graves et al's Cleveland 1, Hickory Mound, sd 1000 ft.

Brazoria County—Roxana's Pabst 2-A, Clemens dome, dr 4406 ft sand and lime; Clemens 4, Clemens Dome, r 3995 ft; Allen Bernard River 1, Allen Dome, dr 4858 ft, sand, oil odor; Allen 3, Allen Dome, 5370 ft, sticky shale, dr; Reese 2, Allen Dome, dr 1676 ft, sand, no show. Pure-Humphreys' Armstrong 1, Stratton Ridge, dr 2287 ft, gbo and lime. Associated's Seaburn 1, Stratton Ridge, dr 2702 ft, rock. Gulf's Perry 2, Stratton Ridge, dr 1460 ft, gob.

Fort Bend County—Gulf's Trone 2, Long Point, dr 904 ft clay rock; Wolff 1, Long Point, dr 911 ft, gyp; Davis 24, Long Point, dr 1012 ft lime rock; Beard 4, Long Point, dr 2730 ft, hard sand. Sun's Farmer 2, Boling, dr 2485 ft, sticky shale. Texas' Farmer 2, Boling, dr 3650 ft, shale and lime.

Goliad County—Houston Oil Co.'s Pettus 3, 10 mi w Goliad, dr 2703 ft, shale and lime; Parks 2, 8 mi e Goliad, dr 3357 ft, shale and lime.

Hardin County—Texas' Le Jarza 3, Batson, bailing oil sand 4480 ft.

Harris County—P. S. Griffith's Fee 2, 12 mi n Houston, wsh over dr stem 3115 ft. Atlantic-Simms' Burt-Griffith 1, 3 mi n Humble, dr 3002 ft, gbo. Juanita Oil Co.'s Kitman 1, 3 mi n Cypress, dk. Humble's Warren 1, Hockley, spudded.

Jefferson County—Rio Bravo's T & N. O. 101, ½ mi n Spindle Top, setting liner 3365 ft, oil sand. J. O. Davis et al's Gladys 1, ½ mi w Spindle Top, coring sand 4790 ft. Hines Bros.' Roberts 2, ½ mi e Spindle Top, dr 3110 ft hard sandy shale. Deep Test Oil Co.'s Mc Faddin 1, 4 mi ne Beaumont, sd 1450 ft. Edmund Tstee's Port Acres 1, 2 mi n Port Arthur, moving rig. Gulf's Bordages 2, Fannett, dr 5140 ft, sticky shale; Bordages 3, Fannett, dr 3897 ft, shale and lime; Thomas 10, Fannett, dr 1045 ft, gyp.

Liberty County—Union Sulphur Co.'s Kyle 5, Moss Bluff, dr 755 ft, gyp. Barlow et al's Minchcliffe 1, Excelsior, dk. Liberty Bell Oil Co.'s Eaton 1, sd 1425 ft.

Matagorda County—Gulf's Craig 8, Hawkinsville, dr 4168 ft, hard sand and lime; Parkinson 2, Hawkinsville, dr 1270 ft, gyp; Parkinson 3, Hawkinsville, loc; Sanborn 3, Hawkinsville, dr 350 ft, gbo. Sheppard Oil Co.'s Murphy 1, Hawkinsville, shot dr stem, to abn, 3114 ft.

Montgomery County—Beard et al's Beard 1, 15 mi e Conroe, loc.

Orange County—W. C. Wells' Starks 1, rigging up. J. T. Miller Drilling Co.'s Brown-Ocultree 1, Gum Island, loc.

Walker County—N. Thompson et al's Thompson Lbr. Co. 1, sd 1502 ft, shale.

Wharton County—Texas' Felder 3, Boling, dr 4470 ft, shale and lime.

Washington County—C. A. DeWare's Lehmann 1, Brenham, wsh to bottom, 2365 ft; Schurenburg 1, Brenham, dr 1365 ft sand and shale. Pratt-Hewitt Oil Co.'s Konieczny 2, Brenham, dr 1860 ft, brown gbo.

(Continued on page 82)

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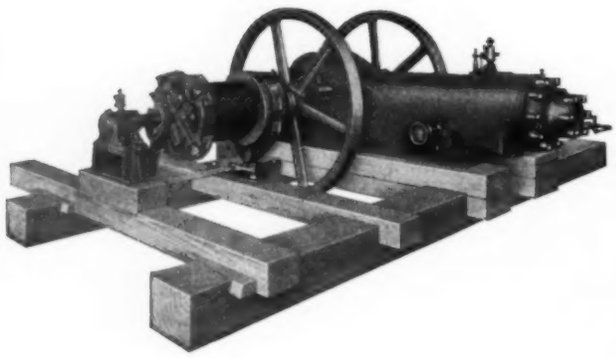

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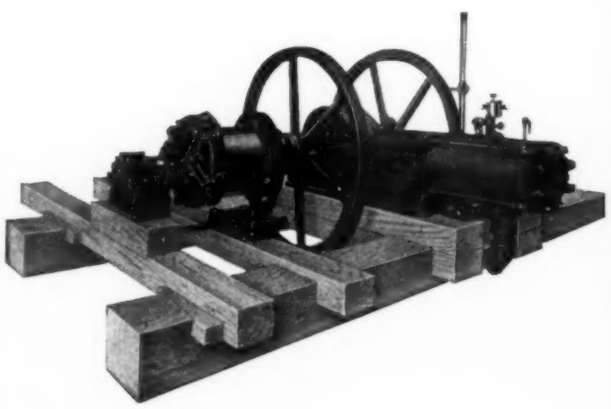

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†Florence, Colo.

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*Ardmore, Okla.
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Breckenridge, Texas
Corsicana, Texas
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Mid-Continent District
Bartlesville, Okla.
Blackwell, Okla.
Bristow, Okla.
Cushing, Okla.
Eldorado, Kans.
Eureka, Kans.
Garber, Okla.
Madison, Kans.
Oilton, Okla.
Okemah, Okla.
Okmulgee, Okla.
Ponca City, Okla.
Quay, Okla.
Seminole, Okla.
Shidler, Okla.
Stroud, Okla.
Tonkawa, Okla.
†Tulsa, Okla.
Webb City, Okla.
Wetumka, Okla.
Wewoka, Okla.
Winfield, Kans.
Wynona, Okla.

†District Headquarters
*Office only.

Oil Well Supply Co., of California
Bakersfield (Oildale) Calif.
Brea, Calif.
Huntington Beach, Calif.
Long Beach (Signal Hill) Calif.
Los Angeles, Calif.
Maricopa, Calif.
Santa Fe Springs, Calif.
San Francisco, Calif.
Taft, Calif.
Torrance (Harbor City), Calif.

Foreign Branches
Cia Consolidada "OILWELL" S. A. Tampico, Mexico.
Oil Well Supply Co., Dashwood House, London, England

FRANKLIN VALVLESS ENGINE COMPANY
FRANKLIN, PENNA.

PERMITS GRANTED FOR NEW WELLS

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountain States:

	Week Ending Apr. 1	Previous Week	Total This Month	Total This Year	This Week Last Year	This Month 1926	Total Same Date 1926	Year Total 1926
Arkansas	10	5	10	127	30	30	379	910
California	24	64	24	401	36	36	567	1,273
Louisiana	20	17	20	147	36	36	338	1,318
Kansas	18	20	18	383	39	39	610	1,745
Oklahoma	40	75	40	1,233	136	136	1,675	5,165
Texas	167	209	167	3,148	377	277	3,316	12,158
Mt. States	17	18	17	186	....	....	....	....
Totals	296	408	296	5,627	554	554	6,885	*22,599

*Does not include Mountain States.

CALIFORNIA

Huntington Beach—Huntington Signal Oil Co., 7, 10-6-11. Superior Oil Co., Walker 1, 10-6-11. World Pet. Corp., Mathews & Ferman 4, 10-6-11. Standard, Huntington B-58, 10-6-11. Bruce Oil Co., 9, 34-5-11. Walker Coan, Trustee, Topeka 2, 10-6-11.

Kings County—C. C. M. O. Co., 1, 17-24-19.

Kern River—General Pet. Corp., 18, 14-28-27. G. F. Getty, Tegeler 21, 22-28-27.

Long Beach—Painted Hills Oil Assn., 13, 19-4-12. Signal Synd., No. 2, 19-4-12.

Midway—Honolulu Cons. Oil Co., 76, 8-32-24.

Rosecrans—Fred E. Cole, 1, 7-3-13.

Seal Beach—Alamitos Oil Co., 1, 3-5-12. Miley Oil Co., Alamitos 2, 3-5-12. Marland, McGrath & Selover 12, 3-5-12; 13 and 14, 3-5-12. Superior Oil Co., Fee 1, 2, 3-5-12. J. P. Getty, Heimer 1, 3-5-12. N. W. Pannall 1, 3-5-12. Greene & Magee, 1, 3-5-12.

Sunset—Union Oil Co., Whittier-Kent 1, 10-11-23.

Ventura—Associated Oil Co., Dabney-Lloyd 1, 23-3-23.

LOUISIANA

Ascension Parish—Gulf, United Lands Co. 1, 15-10s-4e, 1200 ft w and 1000 ft n of se cor.

Acadia Parish—Coastal Oil & Fuel Corp., Crowley, Crowley Oil & Min. Co. 94, 48-9s-2w, 2200 ft s and 1000 ft w of ne cor.

Bossier Parish—John Glassell, Jr., Gibson-Tiger 1, 14-21n-14w, 200 ft n and 200 ft e of center. Palmer Corp., Bossier Land & Livestock Co. 4, 9-16n-11w, 2637 ft n and 1172 ft w of se cor. W. R. Ramsey, Roberson 1, 22-23n-12w, 330 ft n and 330 ft e of center.

Caddo Parish—Bussa & McGoldrick, Bickham 6, 28-21n-15w, 50 ft s and 50 ft e of nw of nw of ne. Marshall Nat. Gas Co., Sharp 1, 22-18n-16w, 660 ft s and 660 ft e of nw cor of nw of sw. Shreveport Oil Corp., State 2, 27-21n-15w, 2600 ft n and 760 ft w of se cor. Simplex Oil Co., Schmidt 2, 15-20n-15w, 200 ft n and 200 ft w of se of nw of ne.

Cameron Parish—Pure Oil Co., Sweet Lake 4, 12-13s-8w, 2157 ft s and 1308 ft e of nw cor; Sweet Lake 5, 12-13s-8w, 3863 ft s and 2015 ft e of nw cor.

Grant Parish—Rue & Carroll, Trs., Elias 1, 10-7n-4w, 618 ft n and 312 ft e of sw cor of sw of nw. J. I. Roberts, Crooms 1, 8-9n-1e, 150 ft n and 345 ft e of sw cor of ne of se. L. C. Swope, Fee 1, 18-9n-1e, 200 ft s and 200 ft w of ne cor ne of se.

La Salle Parish—Garrett & Modisette, Urania Lbr. 4, 7-10n-2e, 610 ft n and 935 ft w of se cor of ne of ne. W. D. Wingfield, Gibson 1, 2-9n-1e, 200 ft s and 200 ft e of nw cor of sw of se. Wingfield et al, Urania 6, 2-9n-1e, 200 ft n and 200 ft e of sw cor of nw of se.

Morehouse Parish—Natural Gas Prod. Co., Crossett 20, 21-23n-7e, 1000 ft e and 250 ft s of nw cor.

Ouachita Parish—Palmer Corp., Milsap 4, 36-20n-4e, 1995 ft n and 624 ft e of sw cor of sw of se.

Terrebonne Parish—John P. Bech, Southdown 2, 103-17s-17e, n 81 degrees 22 ft w 5610.5 ft from ne cor.

ARKANSAS

Ouachita County—Magnolia, Morgan 1, 7-15-19.

Union County—Hollyfield et al, Murphy 7, 9-16-15. Imperial Oil & Gas Co., Murphy 7, wo, 9-16-15. Keen & Wolfe, Murphy 5, 9-16-15. Lion Oil & Ref. Vo., Lawton A-11, 10-16-15, c e l se of nw; Murphy H-2, wo, 9-16-15. Magnolia Pet. Co., Crawford 2, 8-16-16, nw nw se; Crawford 3, 8-16-16, se nw se; Freeman 3, 7-16-16, ne ne sw. Roxana Pet. Co., Flenniken A-3-A, 10-16-15, 150 ft n and 150 ft e of sw nw se.

KANSAS

Butler County—Howard et al, Clayton 1, se nw 23-25-6. Connell et al, Kapps 1, c se sw 3-26-4. Rosenthal et al, Shaffer 5, se sw se 4-27-6. Richmond et al, Brissey 2, ne nw se 8-27-6. Intersea et al, Garbine 2, ne sw 9-27-6. Phillips, McGinnis 1, nw se ne 9-27-6. Christy et al, Harris 1, sw se 14-27-7. Flack et al, Gibbons 1, se nw 5-29-7.

Chautauqua County—Griffen et al, Oliver 3, c s l n½ sw nw 1-32-10.

Cowley County—Trees, Freilinger 1, se ne ne 36-31-3. Texas Co., Hettie 1, sw ne se 21-31-4. Twin State, Goodrich 3, ne sw se 21-31-4. Imo, Graham 1, sw ne 10-32-4. J. A. Hull, Ditmer 10, nw ne sw 24-32-4.

Greenwood County—Simmons et al, Wengler 1, ne sw 12-23-12. Leeword, Hill 3, sw se ne 27-24-9. Empire, Robertson 5, ne se se 18-24-11.

Marion County—Frank et al, Reed 1, nw 17-19-4.

OKLAHOMA

Carter County—Magnolia, Hardin 5, c s½ n½ s½ 18-1-3.

Creek County—Mid-Continent, Dean 1, se ne ne 13-15-7. G. T. Roach, Beavers 1, sw nw nw 35-18-9. Cole et al, Strip 1, sw nw ne 22-18-11. S. J. Smith et al, Fife 2, ne nw sw 3-17-11. S. J. Smith, Fife 5, c e l ne se 4-17-11. Silurian, Starr 23, c w l e½ ne ne 17-18-7; Starr 3, ne 17-18-7.

Garfield County—Sinclair, North Walker 74, sw ne se ne 13-22-4; South Walker 29, nw se se 24-22-4.

Grady County—Garvin, Pursley 1, sw ne sw 16-4-6. Hall et al, Dryden 1, c ne se 35-5-8.

Kay County—Miller Bros., Anderson 1, nw se 10-25-1.

Lincoln County—Magnolia, Telford 1, nw se 7-14-4.

Muskogee County—H. E. Williams, Manuel 7, ce l nw nw 17-15-17.

Okfuskee County—W. L. Umburn, Holmes 2, sw nw sw 36-11-11.

Okmulgee County—J. L. Selby, Flint 9, se ne nw se 26-14-14.

Osage County—Winona 1, se ne se 17-21-11. Phillips, 7, nw se 10-21-9. I. T. I. O. Co., 1, ne 28-23-9. Phillips, 4, se ne 29-26-6. Texas Co., 11, nw se ne 28-26-6; 10, sw ne ne 28-26-6; 9, nw ne ne 28-26-6.

Pawnee County—Ora Steen, Cowan 2, sw nw nw 22-20-7.

Pittsburgh County—Quinton Spelter Co., Stringer 1, sw nw 21-7-17.

Pontotoc County—Homaokla, Harjo 1, ne se se 17-5-6.

Pottawatomie County—Roxana, Coleman 1, ne nw 33-7-5.

Seminole County—Magnolia, Sparks 6, se nw sw 11-9-5. Barnsdall, Davis 3, sw ne sw 11-9-5. Empire, Lacey 7, sw nw sw 14-8-6; Lacey 8, nw sw sw 14-8-6.

Stephens County—Amerada, Hanson 1, ne se sw 12-1-4. Brown et al, Taliaferro 1, ne se 28-1-8.

Tulsa County—Savoy, Buck 1, nw sw se 7-16-41; Bennett 1, sw ne 8-16-14. W. A. McCullough, Crosby 2-a, c n l nw ne 18-17-13.

Wagoner County—O. A. Sewell, Charles 1, nw se se 28-17-16. M. E. Johnson, Bruner 2, sw ne sw 36-17-16. G. S. Wilson, Lunnon 1, nw ne nw 14-16-16.

TEXAS

Archer County—L. T. Burns, Turbeville 5E, B124, J. W. Harris sur, 600 ft e of 6; 6E, 300 ft n of 4. Ted Harris, Farmer 2, W. C. Winters sur, 300 ft n of 1. Humble, Ward 1, 1381 TE&L sur, 150 ft to s and e lines. Underwood Drilling Co., Marland 5, 1379 TE&L sur, 150 ft to s and w lines. Maer & Staniforth, Wilson 2, Day Land & Cattle, 300 ft s of 1. C. U. Beasley, Abercrombie-Taylor 2, B15, Harris sur 450 ft to n and 150 ft to w line. Craig & Wilson, Longley 2, J. B. Hinds sur, 150 ft to s and e lines. Shappell Oil Co., Prideaux 11, J. Dorsey sur, 150 ft to s and e lines. Arco Oil Co., Parkey 1, 1 S. P. Ry. sur 150 ft to e and 1500 ft to s line. L. T. Burns, Turbeville 7E, B124, J. W. Harris sur, 1350 ft to w and 150 ft to s line. Simms, Burleson-Turbeville 10, B142, R. Carson sur, 300 ft e of 9. Roxana, Abercrombie 17A, S2, S. P. Ry. sur 150 ft to n and 1050 ft to e line. Texas Co., Love 3, No. 2, S. P. Ry. sur, 300 ft n of 2.

Austin County—Humble, R. Deutrick 1, W. C. White sur, 400 ft w of center of e line; Woodley 1, Wm. Harvey sur, 600 ft to e and 500 ft to s line.

Brown County—Evans & Swink, Texaque 2, No. 147, Wm. Miller sur, 450 ft to n and 150 ft to w line. Bruce & Johnson, Fairland 1, J. S. Thom sur, 200 ft e of center of w line. Amerada, Henslee 2, S151, P. Curlong sur, 525 ft to s and 150 ft to w line. Case & Thralls, Clark 1, S48, R. Malons sur, 150 ft to n and 750 ft to e line. J. B. Alford Oil Co., Davis 2, M. Little sur, 150 ft to n and e lines. F. O. Funk, Scringeour 1, S 600, T. Smith sur, 150 ft to e and 929 ft to s line. E. M. Curry, Willis 5, M. B. Mitchell sur, 150 ft to n and e lines.

Borden County—Guthrie & Stivers, Snodgrass 1, S 475, B 97, H&TC sur, center of nw¼.

Brazoria County—Rycade, Nash 12, T. Allsberry sur, 1105 ft to n and 1036 ft to w line.

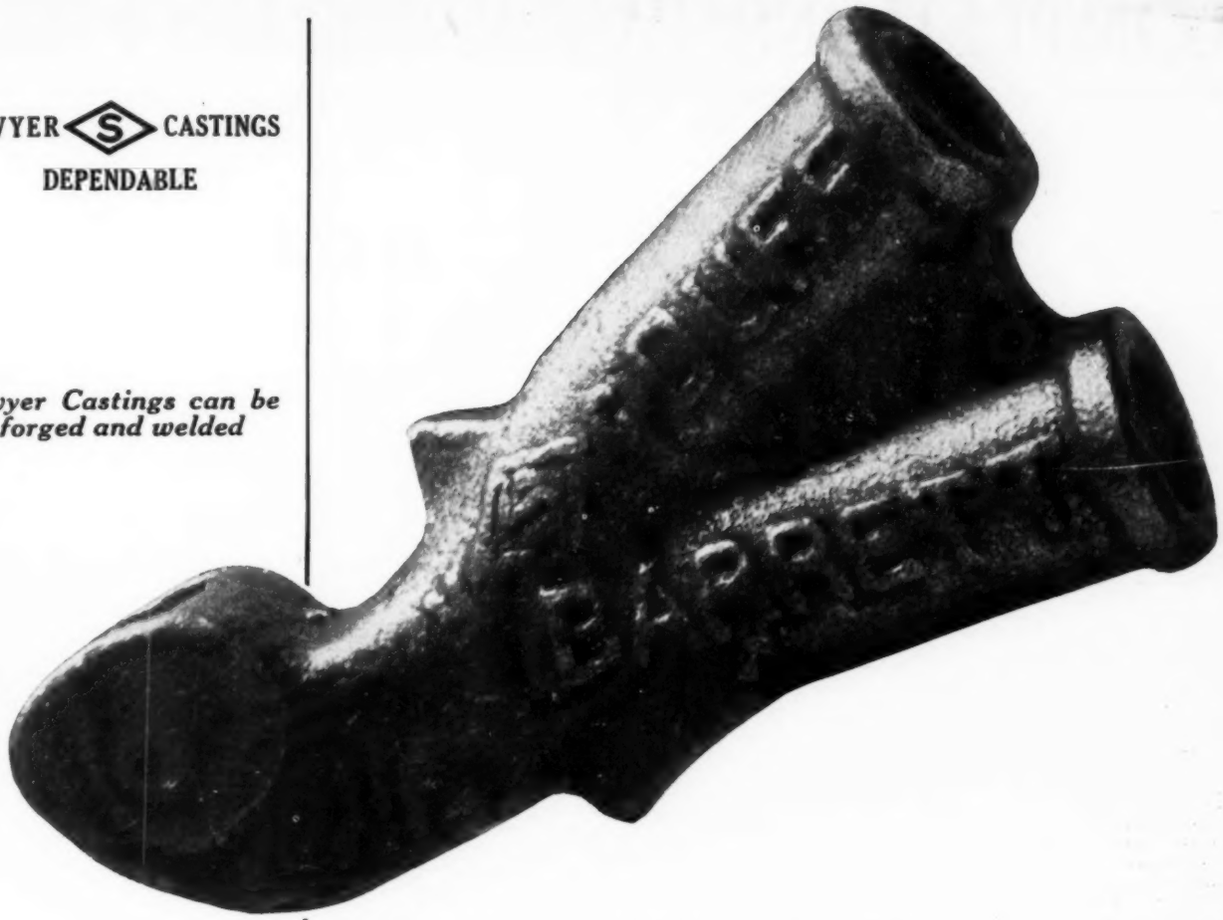
Bexar County—Witherspoon Oil Co., Pyron X5, No. 274, 200 ft e of center of w line; Nixon 1, No. 63-119, 1500 ft to e and 1600 ft to s line.

Callahan County—Williams & Murphy, Ramsey 11, 3156 TE&L sur, w of 6. McRae, Frost, Connor & Sikes, Ingram 6, S 19, Bayland Asy. sur, 900 ft n of 5. M. E. Wakefield et al, Lee 2, B 95, C. C. S. L. sur, 450 ft to n and 1375 ft to e line. Navarro Oil Co., Barnett 1, B 99, C. C. S. L. sur, 150 ft to e and 200 ft to s line. Root & Fehl, Eddington 1, S 39, C. C. S. L. sur, 150 ft to n and w lines. Cisco Oil Co., Williams 27, S 1, B E, T&P Ry. sur, 335 ft nw of 4. J. E. Hudson, Tatum 1, S 150, BBB&C sur, 150 ft n of center of s line. Warren-Hayes Oil Corp., Green 1, S 27, D&D sur, 150 ft to n and w lines. R. E. Fallin, Dyer 1, 2051 Univ. Lands, 1000 ft to n and 150 ft to w line. Margaret Oil

(Continued on page 94)

SIVYER (S) CASTINGS
DEPENDABLE

Sivyer Castings can be forged and welded



Lifting 30,000 Pounds of Dead Weight

The small casting shown above is a twin socket lever used on the genuine Barrett Automatic Lowering Jacks, cast in Sivyer Special Carbon Steel. The fact that this casting is strong enough to lift a dead weight of 30,000 pounds—not once, but many times—is convincing evidence of the interior soundness of Sivyer Special Carbon Steels. Sivyer's foundry practice assures steels and alloys with a uniform composition of metal—without blow holes, and without weak sections. That is why so many manufacturers are changing from other metals and other methods to Sivyer Alloy—long-life, low-cost steels.

Handling Small Orders As Well As Big

Alloy runs, small or large, can be handled in the Sivyer foundry. The old "doping the pot" for small alloy runs is gone. Sivyer's one-half ton electric furnace fits the small jobs.

Lower Machining Cost

In addition to the strength, toughness, and soundness of Sivyer Alloy Steels, Sivyer castings can be forged, welded, and may be heat treated *after* machining. This means that a harder alloy steel can be used without affecting the machining costs.

Send Blue Prints

If you have a new part to cast—or if the castings you have are not giving you the service they should, send us a blue print of the part. We will check it and submit recommendations without obligation to you.

MID-CONTINENT OFFICE
1415 F. & M. Bank Bldg.,
Fort Worth, Texas

SIVYER STEEL

SIVYER STEEL CASTING COMPANY, MILWAUKEE

Say you saw it in The OIL WEEKLY

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
Caddo County—		
Gorton Trust Co., Marchund 2, nw sw nw 2-5-9	15	2689
Carter County—		
Humble, Jordan 11, se nw sw 18-1-3	210	2801
Magnolia, Hardin 4, ne se sw 18-1-3	350	3200
Bumpass 3, nw se 33-1-3	75	2725
Adams 10, nw ne se 3-2-3	90	3005
Adams 9, ne 10-2-3	150	3042
Merrick et al, Denny 1, sw nw sw 20-1-3	95	3071
Creek County—		
Atlantic et al, Kimble 1, nec 10-14-10	30	2715
Texas Co., Unallotted 1, sw se ne 31-15-9	40	1248
Love et al, Hendrickson 2, se ne se nw 21-16-9	15	3032
Whitten et al, Wrightman 3, sw ne 11-17-10	15	1970
Texas Co., Land 14, ne nw sw 1-18-11	50	2069
Empire, Lindley 3, se nw sw 30-15-8	¶40	3258
Sherry et al, Unallotted 1, se 2-19-9	*	2646
Riverland's Land 9, se sw nw 1-18-11	*	2109
Bu-Vi-Bar, Harjo 1, sw ne 18-17-9	*	3440
Sherry et al, Bowman 1, sw nw nw 7-16-12	*	2776
McCullough et al, Lasley 1, ne se 4-17-8	*	3590
Lima, Benjamin 4, ne sw sw 30-15-8	*	....
Garfield County—		
Sinclair, Hoy 22, nw se ne 25-22-4	295	2297
Grady County—		
Carter, Polson 5, nw ne sw 27-3-5	90	1810
Polson 6, sw ne sw 27-3-5	120	1788
Adair 3, sw se nw 27-3-5	20	1821
Miller 3, se sw sw 22-3-5	35	1832
Miller 2, sw 22-3-5	10	1840
Walford 4, se ne sw 16-3-5	100	1786
Gardenshire 1, nw 16-3-5	15	1802
Ray Horton 1, sw se nw 8-3-5	85	2811
Hildebrandt 2, sw se nw 35-3-5	*	1525
Meridian, Ramsey 1, ne ne 10-4-8	¶11	2397
Sinclair, Charles 5, sw se se 22-5-8	¶15	2380
Magnolia, Harrison 5, ne se ne 28-3-5	¶10	1755
Briscoe et al, Sledge 1, se sw 6-3-5	*	2215
Kay County—		
Comar's Day 4, ne se se 20-29-1	65	3420
Judd 1, ne 29-29-1	10	3517
Marland, White 2, ne se nw 17-29-1	¶15	1970
Hag, Powers 1, ne nw 29-27-1	¶¼	900
Mississippi Valley, Balzer 2, se ne 3-27-2	*	4007
Blackwell et al, Kaney 3, ne nw nw 7-26-1	*	3682
Braman, Townsite 2, sw 5-28-1	*	2876
Okmulgee County—		
Pratt et al, Colbert 10, ne sw se 22-14-14	10	1290
Texas Co., Anderson 1, se sw ne 3-15-14	5	1567
Gray et al, Pelocke 4, se 23-15-12	40	2688
G. E. Simmons et al, Reynolds 10, se sw 15-13-14	*	2464
T. Savois, Blair 3, se sw 24-15-12	*	2714
Link, Thompson 2, nw sw ne 17-14-15	*	2632
Osage County—		
Phillips 6, ne sw sw 1-27-5	60	2991
Blackwell 1-a, nw ne sw 5-27-11	¶¼	2222
Skelly 11, nw sw nw 28-26-6	260	2955
Texas Co. 12, sw ne 30-25-8	157	2434
59 Osage Oil Co. 37, se sw nw nw 9-24-12	5	1682
Delmar, 2, nw sw se 17-23-10	610	2494
Ray Branstretter, 2, ne nw 23-22-9	*	2525
Pawnee County—		
Josey, Freeman 6, sw se se 21-20-6	20	3056
Pottawatomie County—		
Gypsy, Earl 3, se nw 16-9-5	2940	4282
School land 4, ne sw ne 16-9-5	6230	4316
Seminole County—		
Twin State, Jeming 1, ne se nw 4-9-6	330	4441
Gypsy, Bud Carter 1, sw se nw 11-9-5	715	3536
Butler 3, ne 35-9-6	1830	4174
Texas Co., Wilmont 2, ne se 10-9-5	150	3544
Barnsdall et al, Williams 9, se ne sw 33-11-8	300	4208
Dixie, Parker 3,ne sw 32-8-8	115	4147
J. E. Crosbie et al, Sewell 1, se ne sw 15-8-8	990	3266
Amerada, Roscoe 1, ne sw 15-8-6	4105	4209
Turman, Cudjo 4, ne nw sw nw 35-9-6	800	4095
Barnsdall, Jones 2, nw ne ne 34-9-6	6130	4081
Magnolia, Franks 2, sw 25-9-6	1700	4131
Tidal, Mahardy 5, nw ne sw 24-9-6.	15	3888
Carter 6, ne nw sw 24-9-6	2750	4107
Carter 5, se nw sw 24-9-6	360	3923
Mid-Continent, Tayoche 7, se sw 24-9-6	100	3989
Amerada, Anderson 3, nw sw nw 15-9-5	4100	4273
Wrightsman, Harjo 1, sw 35-10-6	*	4368
Stephens County—		
Empire, Miller 1, ne 5-2-8	25	2185
R. S. Scott, James 1, nw sw se 12-1-4	35	1458
Ellis, Bridenthal 7, se se 19-1-8	35	2273
Magnolia, Russell 12, se ne se 25-1-9	35	2141
Gamble et al, Massey 3, sw se se 25-1-9	80	2178
Continental Dev. Co., Ball 1, ne nw 1-1-9	¶8½	1864
Carter, Goza 3, ne sw ne 2-2-5	*	2476
Mid-Center Dev. Co., McRuer 1, sw ne 32-1-5	*	2070
Carter, Edmundson 1, se ne ne 25-1-9	*	2629
Pearce et al, Taliaferro 2, se 27-1-8	*	1795
David Malernee, Burke 2, se 27-1-8	*	2345
Pace et al, Massey 2, se sw nw 12-2-8	*	2315
Tulsa County—		
Supees et al, Smith 2, ne nw sw 5-18-13	8	1431
Ricketts 2, sw nw 5-17-13	*	2650
Smith 3, nw sw 5-17-13	*	1985
Holmes et al, Bell 2, sw nw 14-19-10	*	1846
Stearn 1, nw se 25-19-10	*	2576
Wagoner County—		
Severeda, McIntosh 5, sw nw se 25-17-16	20	1330
Johnson, Bruner 1, swc 36-17-16	*	1632
Tillman County—		
Petroleum Inv. Co., Ennis 1, sw nw 15-1-20	*	3050
Comanche County—		
Bently et al, sw ne nw 29-1-12	*	2947
Garvin County—		
Gy Fisher, Paxton 1, ne sw 25-3-1	*	3000
Roy Burk, Piles 1, sw nw se 35-3-2	*	....
Hughes County—		
Transcontinental et al, Harjo 12, sw se sw 26-9-9	*	3772
Muskogee County—		
E. L. Newport et al, Roberts 1, nw 16-15-17	*	1440
C. M. Bradley, Kelly 1, sw se 5-14-19	*	1510

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
Butler County—		
Empire, Koogler 7, sw ne nw 20-26-5	20	2545
Phillips, Edwards 1, sw se ne 4-27-6	90	2813
Allison et al, McGinnis 1, nw ne 9-27-6	150	3164
Empire, Hazlett 10, se nw ne 11-28-4	125	2538
National Ref. Co., Motter 6, nw sw ne 26-28-5	10	2795
Lebow et al, Mossman 1, nw se sw sw 24-26-5	*	2810
Cowley County—		
Trees, Dickson 1, sw ne 30-30-4	75	2874
Twin State, Ross 2, nw se se 21-31-4	117	2401
T. B. Slick, Dibbons 2, ne sw ne 22-32-4	75	2367
Barnsdall, Thurlow 1, nw sw 8-33-3	230	3500
Pyke et al, Pudden 1, se ne 16-35-4	¶5	1756
Elk County—		
Union Gas Corp., Webb 1, nw se 23-31-10	¶½	1246
Greenwood County—		
Empire, Pixlee 1, ne nw se 7-22-10	20	2468
Theta, Browning 18, ne se nw 17-22-10	125	2348
Bement et al, Swanson 1, ne se 9-22-12	20	1822
Texas Co., Swanson 4, sw se ne 9-22-12	15	1804
Henderson et al, Gaffney 1, se sw ne 7-24-11	10	1886
York State, Marlow 1, se sw 29-22-11	*	2003
Phillips, Ward 1, nw sw 26-23-8	*	2518
Elmwood et al, Hall 1, se nw 12-23-10	*	2250
Troxell et al, Kester 1, nw ne ne 33-24-12	*	....
McCullough et al, Bayes 1, se 5-24-13	*	1725
Roth et al, Birkett 11, ne sw 12-25-8	*	2320
Fisher et al, Roby 1, nw sw nw 18-25-10	*	....
Reed et al, Long 1, sw nw 17-25-13	*	....
Lyon County—		
Trancontinental, Atyeo 12, nw sw sw 30-21-10	40	2213
Russell County—		
Wilcox, Genther 1, ne 19-12-15	60	3021
Mid-West, Merimas 31, sw ne 5-14-15	200	3062
Sumner County—		
Wickers, Shore 2, se nw se 24-31-2	500	1937
Roxana, Shore 2, ne sw se 24-31-2	500	1927
Shore 3, nw ne se se 24-31-2	350	1938
Churchill 5, se sw 25-31-2	500	1903
Van Sickle 4, ne nw se 25-31-2	800	1899
Marland, Hull 1, ne 11-35-1	*	3835
Marion County—		
Frank et al, Houser 1, ne 33-17-4	*	2680
Coffey County—		
Reeser et al, Hossbeck 1, ne se sw 23-21-13	*	....

SUMMARIZED REVIEW OF FIELD RESULTS

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Arkansas	11	5	6	2	2	3	3	..	277	226
California	11	27	11	26	..	..	..	1	8,452	17,685
Colorado	1	2	1	1	..	..	..	1	500	140
Indiana	2	5	1	2	1	..	..	3	30	170
Illinois	2	2	1	2	..	..	1	..	3	115
Kansas	36	33	22	18	2	4	12	11	4,032	3,100
Kentucky	25	6	21	5	..	..	4	1	1,280	18
Louisiana	17	13	9	4	1	1	7	8	635	1,945
Michigan	6	5	6	5	..	..	..	..	495	535
Mississippi	..	..	..	..	..	..	..	..	....	....
Montana	4	1	4	1	..	..	..	..	675	60
New Mexico	1	1	1	1	..	..	..	..	35	100
New York	..	12	..	12	..	..	..	..	....	25
Ohio	38	58	23	36	10	17	5	5	1,167	1,543
Oklahoma	99	80	58	39	7	6	34	35	36,945	21,223
Pennsylvania	37	52	35	44	1	6	1	2	84	147
Tennessee	1	2	1	2	..	..	..	..	200	300
Texas	181	169	111	112	3	5	67	52	38,868	38,680
West Virginia	14	32	4	7	4	15	6	10	95	68
Wyoming	8	4	8	4	..	..	..	..	9,370	6,650
Totals	494	509	323	323	31	57	140	129	103,143	92,730
Increase this week	..	..	..	..	..	..	11	..	10,413	....
Decrease this week	15	..	..	..	26	..	..	..	....	....

BETTER VALVES

The Larkin Brass Jacketed, Non-Corrosive Insert and Ball Valve

FITS ALL STANDARD EQUIPMENT

Demagnetizing, Long Service Ball and Seat. *Where others finish, we start.* Heat treated first, finished after. No warpage, no irregularity. Recoil in brass encasement reduces ball shock on insert.

Insert will not Chip, Crack nor Batter

GILMORE OIL COMPANY

March 12, 1927

SPECIALTY SALES CO.PANY,Inc.
1101 Spring Arcade Building,
Los Angeles, Calif.
(Attention Mr J.F. Larkin)

Dear Sir:-
This is to certify that we had two Wells with which we were troubled with Balls and Seats magnetizing, but after instal-lation of your Larkin Ball and Seat Valves this trouble has been completly eliminated.

Yours truly,
Gilmore Oil Co.
per Scott Beach
Supt.of Production

KERN SUNSET OIL COMPANY
MARICOPA, CALIFORNIA

March 2, 1927.

Specialty Sales Company, Inc.,
1101 Spring Arcade Bldg.,
Los Angeles, California.

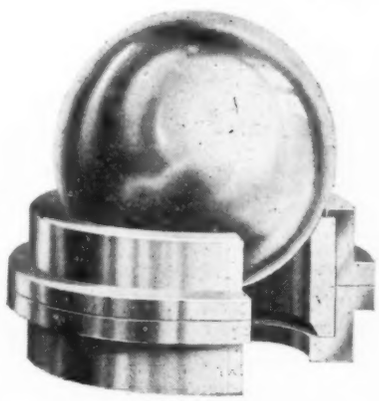
Gentlemen:

Last November we bought from you, two 3" Larkin Balls and Seats to try in a well which had been giving us a great deal of trouble on account of the corrosive action of the water present. We had tried every kind of non-corrosive Seat that had come to our attention but none of them had given any results in proportion to their extra cost and we had fallen back on the use of soft steel seats of the usual type. These would last, on the average, a little less than thirty days and we could never use more than one side of the Seat. When that side was gone, it was all gone.

On this account we did not have much confidence in the Larkin Seats when we first saw them although they did look better than any others we had seen. Now, after more than three months and a half, we are more than pleased with their performance. The well was recently pulled to change the pump, which had worn out, and the Seats were carefully examined to see if they were worn or corroded to an extent that would require their replacement. We could not find the slightest sign of deterioration of any kind and put them into the new pump in just the same position as they had occupied in the old one.

We have no idea how long we may expect them to run, but believe it will be well on to a year, figuring the use of both sides of the Seat. When our stock of soft steel Seats is used up we expect to standardize on your make as we consider them the best thing in their line that we know of, and shall take pleasure in recommending them to other producers. For the same reason, we are glad to authorize you to use this letter if you feel it would be of any advantage to you to do so.

Yours very truly,
KERN SUNSET OIL COMPANY,
(J. B. Wells)
Manager.



PATENTED

Why Discard that Part of seat that entails greatest expense in making?

Save this and throw away only the perishable part of valve.

Brass jackets last indefinitely. A new insert and ball gives you a new valve.

What they do for others they'll do for you

SPECIALTY SALES CO., Inc.

1101 Spring Arcade Building **LOS ANGELES, CALIF.**

ARKANSAS

Company, Well and Location	Initial Production Bbls.	Depth
Nevada County—		
Dixie, Atkins 1, 9-14-21	40	1238
Ouachita County—		
H. E. Clark, Shirey 3, 36-15-17	7	2307
Middlesex Oil Co., Sherey 4, 36-15-16	20	2249
Union County—		
Grimes et al, Williams 1 8-18-14	35	2235
Imperial Oil & Gas Co., Murphy 4, 9-16-15,	75	2778
Keen and Wolfe, Murphy 4, 9-16-15	¶3	2650
Lion Oil and Ref. Co., Murphy D-7, 8-16-15	¶7	2768
Peer Oil Co., Palmer B-7, 9-16-15	100	2426
E. M. Jones, Lawton A-2, 10-16-15	....	....

LOUISIANA

Bossier Parish—		
Woodley & Coolins L&A 2, 14-23-12	50	3081
Caddo Parish—		
Dixie, Robertshaw 85, 14-21-15	40	1682
Double I Oil Co., Spell 9, 15-21-15	10	1705
Gulf, Ferry Lake 264, 22-20-16	17	2330
Ferry Lake 265,28-20-16	18	2263
Ouachita Parish—		
Natural Gas Prod. Co., Burton 1, 26-20-4e	25	2171
Southern Carbon Co., Ladell 5, 2-19-4e	10	2176
Richland Parish—		
Gulf, Marshfield 1, 30-17-6e	12½	2397
Union Parish—		
Natural Gas Prod. Co., Trimble 1, 7-20-4e	16	2140

SOUTH LOUISIANA

Vinton—		
Louisiana & Colorado Oil Co., Johnson 3, wo	500	2000

TEXAS

GULF COAST

Spindle Top—		
Gulf, Jas. F. Weed 12, "A"	2520	5000
Spindle Top Western Oil Co., Weed 1, wo	4800	5000
Saratoga—		
Cotton Oil Co., Pope Ellis 2	5	800
Hull—		
Gulf, J. C. Baldwin 19	125	3100
Blue Ridge—		
Navarro Oil Co., Robinson 1 "B" wo	500	4000
Pierce Junction—		
Gulf, W. H. Jones 2	1000	3400
Rio Bravo, P. F. Settegast 3, wo	3600	4200
Bender 3	1200	3500
Orange—		
Rex Pet. Co., Carbello 13	125	3150
Atlantic, Moore 2, wo	*	3350
High Island—		
Gulf, G. E. Smith 3 "A"	*	3100
Sun, Cade 9 "C"	*	2300

ARCHER COUNTY

B. S. & B. Oil Co., Wilson 1	*	1600
Burton & Consolidated Oil Co., Helm 1	*	1953
L. T. Burns et al, Turbeville 11-D	70	1466
Turbeville 2-E	275	1470
Turbeville 3-E	260	1473
Turbeville 4-E	385	1475
Consolidated & Texas, Coody 3	3	1171
Craig & Wilson, Longley 2	*	1008
Donohoe & Johnson, Edwards 1	*	1630
Harry Hines et al, Ward 2	*	1015
E. B. Lawson et al, Wilson 7	35	1564
T. G. Lomax et al, Wilson 1-D	*	1850
Mid-Kansas O. & G. Co., Lowe 8.	30	1298
Pet. Prod. Co., Wilson 1	*	1515
Simms Oil Co., Turbeville 19-A	245	1508
The Texas Co., Lowe 3	*	1474
Tidal Oil Co., Farmer 3	25	1476
Underwood Dr. Co. et al, Ward 4	*	1211
United & Pet. Prod. Co., Turbeville 1-B	235	1474

BROWN COUNTY

Amerada Pet. Corp., J. H. Fry 23	5	1405
Anderson & Schultz, Kellar 1	*	1329
Barbara Oil Co., Willis 4	150	1372
Brands et al, Robertson 1	*	1480
Curry et al, Newton 4	30	1290
Garrett & Hammon, Starkey 1	*	1405
Henderson & Pitts, Phillips 1	*	1338
J. K. Hughes Dev. Co., Shore 2	†	810

Company, Well and Location	Initial Production Bbls.	Depth
Humble, Hickman 12	215	1259
Hodnett 8-B	60	1216
Mahlstedt Oil Co., Chambers 1	*	1355
Jas. A. McKenna et al, Shore 3	2400	1320
Mid-West Explo. Co., Suttles 20	*	1175
Phillips Pet. Co., Hickman 4	150	1261
Quinn et al, Pugh 2	*	1950
Randall et al, Schultz 1	*	1365
Shoup et al, Byler 12	60	1291
Sinclair, J. H. Fry 20	300	1311
J. H. Fry 21	530	1305
J. H. Fry 23	150	1317
Superior Oil Co. et al, Brocke 1	*	1230
The Texas Co., Byler 2	50	1298
R. M. Lowe 37	1200	1330
Tidal Oil Co., Hodnett 8	10	1245

BURKBURNETT

Barney Cockburn et al, Michna 2	*	2000
C. P. Sheldon et al, Sheldon 1	*	2027
Frankl et al 2-A	100	1665
Frnakl et al 3-A	45	1663

CARSON COUNTY

Marland Oil Co., Jordan-Brown 1	450	3115
McMan O. & G. Co., E. F. Bryan 5	450	3225
Nunn-McAuley Oil Co., Bryan 3	120	3206
Roxana Pet. Corp., Bryan 1-C, shot	1375	3240

CLAY COUNTY

Coal Bros. et al, Boyd 1	*	905
Empire Holding Corp., Barry 1	30	778
Howard Pet. Co. et al, Inman 2-A	*	3556

COLEMAN COUNTY

Chestnut & Smith, Morris 1	*	2500
Magnolia, G. M. Gray 1	50	2474

COMANCHE COUNTY

Kirk & Brewer, Miers 1	*	2900

COOKE COUNTY

American Ref. Co., Dennis 11	20	1249
Fain-McGaha & Murchison, Otto 1	30	970
Stroube & Stroube, Koelzer 1-B	10	1344
Sun Oil Co., J. A. Dennis 1	20	1265

CRANE COUNTY

Church & Weekly, University 1	2350	2881
Independent, Taylor 8	*	2417

DENTON COUNTY

Moore-Garrett et al, Hampton 1	*	2210

EASTLAND COUNTY

H. H. Adams et al Grove 2	*	3875
Amerada & Thomas & Reynolds, C. V. Ables 1	510	3034
Mays et al, Williamson 1	*	1810
Root et al, Watson 1	200	3900
The Texas Co., Hightower 13	20	1210

ELECTRA

Bailey-Damuth Dr. Co. et al, Waggoner 6	5	776
Waggoner 7	5	585
Waggoner 8	7	778
Waggoner 9	9	778
Waggoner 10	5	777
Waggoner 11	*	850
C. H. Clark et al, Waggoner 1	50	1761
Wayne Hammon et al, Bradley 1	*	1884
The Texas Co., Stringer 88	75	1902
Waggoner 323	95	1746

GRAY COUNTY

Gulf Prod. Co., Worley 10	75	3100

HOWARD COUNTY

Bristow & Merrick, A. J. Hooks 1	95	1825
Magnolia, Kelly-Chalk 1	†	540
Sloan-Chalk 1	40	1570
Marland Oil Co., Chalk 1-C	65	1810
Chalk 1-E	175	1688

HUTCHINSON COUNTY

Dixon Creek Oil Co., Smith 45	390	2880
Gulf Prod. Co., Johnson 15	795	2909
Marland Oil Co., J. M. Sanford 1.	¶110	2610
J. A. Whittenburg 7, shot	130	2833
Mid-West Explo. Co., Whittenburg 4, shot	50	3030
Phillips Pet. Co., Kingsland 8, shot	80	2914
J. A. Whittenburg-Burg 6, shot	225	2950
J. A. Whittenburg-Tinnie 6	500	2916
J. A. Whittenburg-Coble 26, shot	100	2930
Phillips-Gibson-McMillan, Whittenburg 8, shot	150	2889
Whittenburg 10, shot	150	2961
Prairie O. & G. Co., Merchant 3-B	2540	2749
Prairie-Phillips Pet. Co., Johnson 44-A	385	2900
Skia-Tex Pet. Co., Kingsland 5, shot	500	2986
Southwest Oil & Dev. Co., Kingsland 1, shot	50	2935

JACK COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Buttram Pet. Corp., Preston 2-A	25	2086
Eastern Pet. Co., Snedeker 4	15	796
Empire Holding Corp., Snedeker 1-A	*	1010

K-M-A AND IOWA PARK

Br.-Amer. Oil Co. et al, K & K 2	25	1817
Chenault-Palmer & Burch, Chapman 5	3	1685
Pet. Prod. Co., Love 5-B	*	1820
Shappell Oil Co., K. & K. (Blk 51) 1	*	2035

MONTAGUE COUNTY

Atlantic Oil Prod. Co., Nivens 1	*	2505
Barnsdall Oil Co., Howard 4	45	1381
F. P. Cummun et al, Howard 1	25	1195
F-H-E Oil Co., Howard 1-D	20	1190
Humble, W. W. Jones 4	15	872
Lesh-McCall et al, Cunningham 1	¶40	898
Richardson Bros. et al, Rice 1	*	2505
The Texas Co., Maddox 10-D	45	970

PARKER COUNTY

Coffin et al, Stickford 1	*	4050

PECOS COUNTY

Mid-Kansas & Transcontinental, I. G. Yates 3-A	1090	1082

SHACKELFORD COUNTY

Duty et al, Dyer 1	*	955
Harry Gwinnupp et al, Goodwin 1, (Sec. 79)	*	1809
Hope O. & G. Co., Davis 7	¶2-120	1492
Milham Corp., Moore 3	40	2150
Morton et al, Davis 2	*	1710
Republic Prod. Co., Myer 2	15	1003
Ross et al's Poindexter 1	*	1500
Sinclair O. & G. Co., Nail 6	*	2097
Smith et al, Swenson 1	*	2265
Turman & Maxwell, Goodwin 1	*	2008
Wallace et al, Waters 1	*	2459

SOUTH VERNON DISTRICT

Fain-McGaha & Murchison, Waggoner 5-E	600	1994
Humble, W. T. Waggoner 20-M	55	2399
W. T. Waggoner 10-N	50	2465
Milham Corp., Waggoner 11-B	185	2546
Phillips Pet. Co., Waggoner 5-JJ	135	2462
Roxana, Waggoner 3-D	15	2382

THROCKMORTON COUNTY

Humble, M. K. Graham 2	40	1819
Bruce Larkin-White & Consolidated Oil Co., Conger 3	*	2000
Reiter-Foster Oil Corp., Graham 4.	145	1832

UPTON COUNTY

Humble, Ricker 3	100	2411
Roxana Pet. Corp., Bowen 17	500	2191
T-P Coal & Oil Co., Lane 2-A	700	2073
Lane 6-A	400	2071

WHEELER COUNTY

Continental Oil Co., Compary 2	725	2276
Magnolia, C. E. Johnson 2	25	2348

YOUNG COUNTY

Hunter et al, Prideaux 1	*	565
King Royalty & Tidal Oil Co., Benson 29-B	20	943
Liner Drilling Co., Donnell 1	*	3303
Magnolia, C. C. Bloodworth 2	10	541
Pitzer & West, Morrison 3	75	2240
Morrison 1-B	200	2235
Robert Oil Corp., Prideaux 3	15	500
Ruthada Oil Co., Stovall 3	†	200

EAST TEXAS

Harrison County—		
Bahan et al, Furrh 1	¶22	960
Panola County—		
Magnolia, Johnson 2,	4	2097
Johnson 5	12	1978

MOUNTAIN STATES

WYOMING

Salt Creek—		
Midwest, 1L, ne 34-40-79	1800	2467
6, nw 25-40-79	110	1150
Wyoming Asso. Oil Corp., 36L, nw 26-40-79	5600	2397
33, nw 26-40-79	100	1180
34, se 26-40-79	120	1092
6L, nw 35-40-79	1400	2430
Little Lost Soldier—		
Utah Oil Ref. Co., 6A, 2-26-90	225	1740
Big Muddy—		
Wyoming O. & R. Co., 2,	15	1200

NEW MEXICO

Artesia—		
Empire G. & F. Co., 2R, 35-17-27	35	1635

(Continued on page 80)

Where better pipe is needed

On every pipe line, in order to avoid costly pipe failures, it is good economy to provide genuine wrought iron pipe for those places where corrosion is likely to be most severe and where the pipe is more or less inaccessible.

Very often the pipe is hardest to "get at" for the repairs in the very spots where corrosion is the greatest. This is notably true about river crossings, swamps, lakes or wet ground. The use of Byers genuine wrought iron pipe in these places has proven an excellent investment for companies who have followed this practice. Service records point clearly in this direction, and are available for the asking.

That protective coatings are not the solution of the corrosion problem is evident to every practical pipe line man who knows how and where leaks occur. Better, more rust resisting pipe metal is the most logical way to longer pipe life and fewer failures.

Such a metal is wrought iron. It has three distinct advantages over steel; viz:

1. Smaller coefficient of Expansion—therefore less likelihood of collar leaks and breaks in line.

2. A rougher surface to which galvanizing and other protective coatings will adhere with astonishing tenacity, far outlasting coatings on steel pipe.

3. Rust Resistance, proven by a Century of satisfactory service.

A. M. Byers Company

Established 1864

Pittsburgh, Pa. Los Angeles
Houston Tulsa

STOCKS CARRIED AT

Mexia, Houston, Corsicana, Shreveport, El Dorado, Okemah, Taft, Los Angeles, Smackover Sante Fe Springs Thenard Seminole Best McCamey

BYERS PIPE

GENUINE WROUGHT IRON

Say you saw it in The OIL WEEKLY

COLORADO

Company, Well and Location	Initial Production Bbls.	Depth
Wellington—		
Cal. Pet. Co., 1P, 30-10-68	500	4562

MONTANA

Company, Well and Location	Initial Production Bbls.	Depth
Kevin-Sunburst—		
Sunburst Oil Co., 1A, se 4-34-2	50	1500
Cal. Pet. Co., 4, ne 28-35-2	500	1430
"31" Pet. Co., 7, sw 31-35-1	50	1480
Hill Oil Co., 12, ne 27-35-2	75	1545

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
Bradford Field—		
C. B. Kervin, Kervin 9	3	....
Bardwin 1	2	....
J. G. McCandless, 16	3	....
D. W. Daly, Bingham 360, tract 63	3	....
Hazlewood Oil Co., 22, tract 97	2	....
Hazlewood 53	2	....
A. Schorman Saunders 1	3	....
Allen 1	2	....
Devore & Potter, Marvin 2	3	....
Hoffman Estate, Hoffman 5	2	....
Miller & Co., Campbell 1	2	....
T. H. Kennedy, Kennedy 6	3	....
Chamberlain 1	3	....
More & Colton, Wright 1	2	....
J. A. Walters Estate, 49	3	....
E. Jack & Co., 1	2	....
South Penn Oil Co., 109	2	....
G. A. Simpson, 1	2	....
L. H. Smith & Son, Lincoln 1	3	....
Zook & Slona, Keating 13	2	....
Simon Bros., Corwin 1	2	....
E. Daly, Burns & Co. 10	5	....
Wilson & Patton, Wommer 1	2	....
Thomas & Staley, Duke 1	2	....
Burdick & Co., Vincent 1	2	....
Hooper & Co., Bingham 386, tr 21	2	....
Bovaird & Park, Bingham 541, tr 40	2	....
Wal Oil & Gas Co., Goodrich 2	2	....
Wilson & Co., Windson 4	2	....
W. F. Sprague, 17	2	....
R. O. Landers, 1	2	....
F. E. Baldwin, 1	2	....
Venango County—		
Nusbaum & Goldstein, Nelson 13	2	....
Southern Oil Co., Heidekooper 1	2	....
Walter Smith & Co., Porter 39	2	....
Allegheny County—		
Peoples N. G. Co., Tong 1	¶5	....
Beaver Coutny—		
Harbison & Co., Lantz Hrs. 1	*	....

MICHIGAN

Company, Well and Location	Initial Production Bbls.	Depth
Saginaw County—		
Sun Oil Co., F. Stelzreide 1	350	2310
Local Oil Co., State Street 1	50	1822
Sagniaw Pros. Co. Griebel 1	20	1843
Schwinck Oil Co., 2	25	1824
Burdow & Co., Burdow 1	20	1832
Fordney Pet. Co., Madison-Polin 1	30	1818

NORTHWESTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
Ottawa County—		
Onsel-Hanrahan O. Co., F. Dischinger	11	....
Sugar Creek Oil Co., Nellis 2	3	1295
Seneca County—		
Murphy & Co., Hunker 1	40	1519
Sandusky County—		
Ohio Oil Co., J. H. Myers 9	6	1557
Hancock County—		
George Snyder, 1	*	1293

CENTRAL OHIO

Company, Well and Location	Initial Production Bbls.	Depth
Holmes County—		
Empire G. & F. Co., O. Steele 2	75	....
Morgan, Burton & Co., Schuler 1	60	....
Schuler 2	85	....
Kemrow Co., L. B. Mohler 1	55	....
East Ohio Gas Co., F H. Garver 1	¶4	....
Frank Galley 1	¶2½	....
Licking County—		
Ohio F. Supply Co., E. McKinney 38	5	....
E. McKinney 39	5	....
E. McKinney 40	5	....
W. L. Brooks 2	3	....
Robert B. Stone 2	3	....
Pure Oil Co., C. Ensworthy 1	50	....
Shaffer & Co., Chaney 9	20	....
Wiggins & Co., N. McKee 1	3	....
Guernsey County—		
Ohio Fuel Sup. Co., L. J. Fulton 1	228	....
L. J. Fulton 3	120	....
L. J. Fulton 4	160	....
W. McH. Smith & Co., A. Slabie 1	210	....
Cuyahoga County—		
Logan Gas Co., Ella Smith 1	¶¼	....
Arthur & Simpson, Guage 1	¶2¼	....
Kroehler & Co. 1	¶¼	....
Knox County—		
Ohio Fuel Gas Co., T. McMahon 2	¶1¼	....
Upham Gas Co., W. Sapp 1	¶¼	....
Athens County—		
Hendricks & Co., I. B. Davis 2	*	....
Cook & Co., Julian Griff 1	*	....
Medina County—		
E. R. Edson Son Co., Packard 20	1	385
Coshocton County—		
Empire G. & F. Co., R. J. McKelvey 2	¶2	....
Perry County—		
Allegheny Oil Co., E. Barrisford 17	*	....

INDIANA

Company, Well and Location	Initial Production Bbls.	Depth
Jay County—		
Ridenour & Co., Brinkerhoff 3	30	1000
Adams County—		
Schulte & Co., Schwanck 3	¶1¼	1009

ILLINOIS

Company, Well and Location	Initial Production Bbls.	Depth
Lawrence County—		
Ohio Oil Co., Gillin 8	3	885
Wabash County—		
Wirebaugh & Co., C. Keyser 7	*	1575

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
Marion County—		
Hope N. G. Co., J. H. Furbee 1	¶2	....
Carnegie Nat. G. Co., I. Hibbs 1	5	....
Owens Bottle Machine Co., M. L. Straight 1	*	....
Wood County—		
Richard & Co., Phil Kirsch 1	*	....
Mallory & Eflas, S. Compton 3	*	....
J. W. W. Reed, C. S. Reed 2	*	....
Clay County—		
Virginian G. & O. Co., J. B. Castro 16	25	....
S. Penn Oil Co., O. D. Stockley 53	40	....
Ritchie County—		
Hope N. G Co., H. M. Lewis 1	¶1	....
Gilmer County—		
Morris & Co., Julia Summers 1	¶2	....
Mingo County—		
Public Gas Corp. Logan C. C. 24	25	....
Monogalia County—		
Swatika O. & G. Co., D. R. Wright 1	¶¼	....
Pleasants County—		
Hammett & Co., W. P. McTaggart 1	*	....
Jackson County—		
E. L. Boehm, T. Burch 1	*	....

KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
Ohio County—		
J. C. Miller, Ambrose Hrs 4	250	631
Ambrose Hrs 5	350	671
Ambrose Hrs 3	200	629
J. C. Ellis, J. R. Weller 4	150	667
J. R. Weller 5	150	616
Rex-Pyramid Oil Co., Ambrose 2	40	703
Leeper Oil Co., Colyer 6	75	550
Panther Creek Oil Co., Miller 19	5	....
Johnson-Magoffin Counties—		
Bed Rock Pet. Co., Arnett 26	10	....
Model Oil Co., S. Hackworth 2	5	....
Reno Oil Co., P. Borders 10	10	....
P. Borders 11	10	....
Gorge & Touma Holbrook 9	2	....
Jenkins & Co., Adams 2	*	....
Warren County—		
Wood Oil Co., C. G. Davenport 29	5	430
John Boyd & Co., Covington 4	*	378
Gustave New & Co., B. Wolthall 1	*	272
Wayne County—		
W. O. Souther & Co., Jones Hrs 6	1	....
Beaver Pet. Co., Steele Hrs 13	*	....
Estill County—		
Brenner & Adams, J. Sparks 5	5	....
Superior Oil Corp., A. F. West 8	3	....
Lawrence-Johnson Counties—		
S. E. Loman, W. M. Ross 5	5	....
Lee-Owsley Counties—		
Black Gum Oil Co., Gorley-McGuire 14	5	....
Allen County—		
Tracey Supply Co., R. Osborn 1	2	337
Morgan County—		
Dunham & Page Joseph Cole 1	1	....

TENNESSEE

Company, Well and Location	Initial Production Bbls.	Depth
Clay County—		
Cumberland Valley Oil Co., B. Langford 2	200	490

SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
Monroe County—		
John Langsdorf & Co., 1	¶¼	....
Gold Crown O. & G. Co. F. Dillon 3	¶1¼	....
Morgan County—		
Ralston & Maynard, T. O'Connor 7	3	....
J. B. Kellar & Co., W. Recker 1	*	....
Carroll County—		
Eaton & Co., Harding 4	15	....

CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
Seal Beach—		
Associated, Bryant 6	1100	4420
Marland, Bixby 10	1180	4330
Huntington Townsite—		
Barry Oil Co., 5	900	4423
Pollard-Calahan well	600	3902
Baldwin Hills-Inglewood—		
Standard, Baldwin-Cienega 42	305	1533
Brea-Richfield—		
Standard, Moll 1,	72	3150
Ventura Avenue—		
Associated, Lloyd 19	3078	6675
Shell, Taylor 15	872	5210
Kern Front—		
G. F. Getty's Tegeler 20	125	2294
Petroleum Sec. Co., 4	170	2477

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912.

Of The Oil Weekly, published Weekly at Houston, Texas, for April 1st, 1927.

STATE OF TEXAS)
COUNTY OF HARRIS) ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared A. L. Burns, who having been duly sworn according to law, deposes and says that he is the general manager of The Oil Weekly and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher R. L. Dudley, Houston, Texas; Editor S. W. Robinson, Houston, Texas; Managing Editor J. Kent Ridley, Houston, Texas; Manager A. L. Burns, Houston, Texas.

2. That the publication is owned by The Gulf Publishing Company, a corporation, and the names and addresses of the stockholders owning or holding one per cent or more of the total amount of stock are as follows: Jas. Anderson, Houston, Texas; R. L. Blaffer, Houston, Texas; Mrs. S. C. Blaffer, Houston, Texas; A. L. Burns, Houston, Texas; J. F. Carter, Jr., Tulsa, Okla.; R. L. Dudley, Houston, Texas; Dr. N. L. Dudley, Goose Creek, Texas; W. S. Farish, Houston, Texas; Dr. J. L. Gross, Houston, Texas; H. R. Hughes, Houston, Texas; Chas. H. Lane, Houston, Texas; W. B. Larkin, Wichita Falls, Texas; J. H. McEvoy, Houston, Texas; J. H. McEvoy, Jr., Houston, Texas; Wallace E. Pratt, Houston, Texas; J. Kent Ridley, Houston, Texas; Spencer W. Robinson, Houston, Texas; C. N. Scott, Houston, Texas; R. S. Sterling, Houston, Texas; Jno. R. Suman, Houston, Texas; O. R. Waller, Chicago, Ill.; C. F. Williams, Humble, Texas.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: Jas. Anderson, Houston, Texas; H. C. Weiss, Houston, Texas; R. L. Blaffer, Houston, Texas; W. S. Farish, Houston, Texas; John Hamman, Houston, Texas; Jno. R. Suman, Houston, Texas; Mrs. A. C. Scheider, Houston, Texas.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholders or security holders appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is..... (This information is required from daily publications only.)

A. L. BURNS, General Manager.

Sworn to and subscribed before me this 1st day of April, 1927.

(SEAL) J. KENT RIDLEY.

(My commission expires June 30, 1927.)

AXELSON MACHINE CO., *Sucker Rods, Pull Rods, Plunger Working Barrels, (Pumps) etc.*— BEAUMONT IRON WORKS CO.,*DREADNAUGHT Rotary Drilling Equipment, Water-Cooled Draw Works, Pumping Hoists, Traveling Blocks, etc.* — CARBIC MFG. CO., *Acetylene Gas Generators and Welding Equipment.* — DONOVAN BOILER WORKS, *Oil Country Boilers and Tanks.*— FRICK-REID SERVICE BELTING, *Rubber Covered and Friction Surface.* — JENSEN BROTHERS MFG. CO., *Pumping Jacks* — NATIONAL TRANSIT PUMP & MACHINE CO., *Power and Steam Pumps.*— J. P. RATIGAN, *Grips, Clamps, Beam Hangers.* JOSEPH REID GAS ENGINE COMPANY, *Gas and Oil Engines, two and four - cycle, Band Wheel and Direct Drive Pumping Powers.* —ROSSENDALE REDDAWAY BELTING & HOSE CO., *"Camel Hair" Belting, Belt Clamps.* — WHITLOCK CORDAGE COMPANY, *Manilla Cordage, Bull Ropes and Cat Lines.* — LAP-WELD AND SEAMLESS TUBULAR GOODS. — WALWORTH CO., *Valves, Fittings and Tools for Steam, Water, Gas, Oil and Air.*

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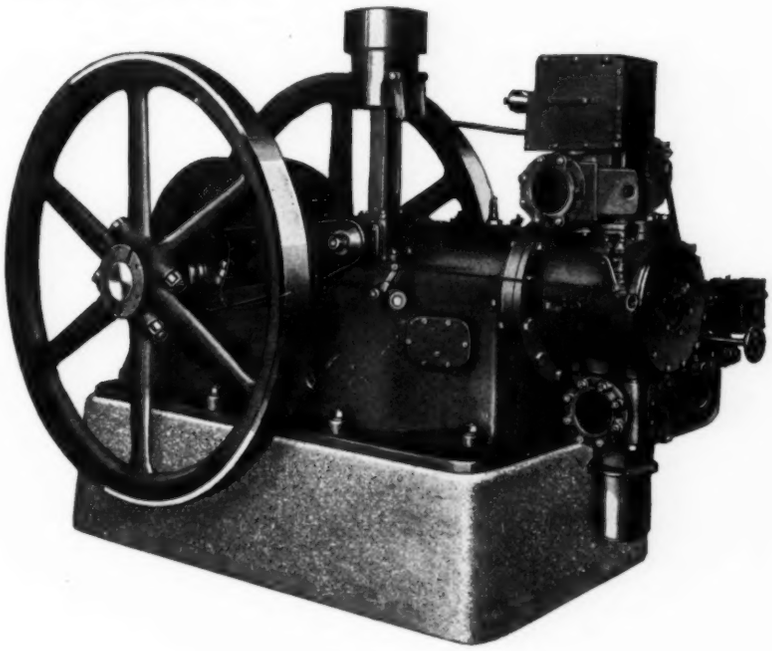

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WILDCATS
(Continued from page 70)

EAST TEXAS
Completions

Harrison County—

Company, Well and Location		Initial Production Bbls.	Depth
Clark & Melat, Hope 1		*	3540
M. W. Ellis, Rosborough 1,		*	1440

Harrison County — Waterman Drlg. Co.'s Hickman 4, set 10 in at 142 ft. Sabine Drlg. Co.'s Williams 1, dr 1420 ft.

Marion County—Interior Oil Co.'s Stallcup 3, sd 1670 ft.

Panola County—Magnolia's Steele 5, set 6 in. 2203 ft; Tiller 4, lcn; Johnson 6, blg 1629 ft.

Shelby County — Arkansas Fuel Oil Co.'s Bouland 1, r 3200 ft. Clark & Melat's Pickering Lbr. Co. 1, dr 2639 ft.

EAST CENTRAL TEXAS
Completions

Limestone County—			
F. P. Zoch & Marland, Maddox 1		*	3253

TEXAS PANHANDLE
Completions

Moore County—			
Prairie et al, O. E. Goeber 1		†	1118

WEST TEXAS
Completions

Concho County—			
Marland Oil Co., Sansom 1		*	1613
Crane County—			
W. E. Duffey-Cuthbirth & Penn-Tex Dev. Co., Cowden 1		*	3250
Prairie & J. D. Collett, University 1-B		*	4160
Simon & Cromwell, Brookfield 1		*	3525
Hofmeier & Zweifel, Cowden 1		*	3300
Glasscock County—			
Marland & Texon Oil & Land Co., Settles 1		100	1263
Howard County—			
Marland Oil Co., Brite 1		*	3515
Jones County—			
Muse-Robertson et al, Manly 1		*	2070
Kimble County—			
Dixie Oil Co., Harrison 1		*	3025
Mitchell County—			
Teas & Stivers, Hardee 1-A		*	3500
Winkler County—			
F. P. Zoch et al, Sealy 1-A		*	4055

Andrews County — Amon Carter & Henry Zweifel's Cowden 1, set 10 in. 1350 ft. J. S. Cosden et al's Ratliff-Bedford 1, lcn. Calvin-Belt et al's Ratliff-Bedford 1, lcn. Deep Rock Oil Co.'s W. J. Harris 1, rig. Maer-Staniforth's W. S. Taylor-Meador 1, dr 1250 ft. C. B. McKinnon et al's J. S. Means 1, machine.

Borden County—Stivers & Guthrie's Snodgrass 1, dr 315 ft. J. L. Kennedy et al's J. S. York 1, lcn.

Coke County—Lipan Oil Co.'s S. M. Conner 1, elev 2045 ft, dr 270 ft.

Concho County—Harry Adams et al's Price 1, machine. Arkansas Fuel Oil Co.'s Hartgrove 1, dr blue shale 2270 ft. Associated Pet. Co.'s Sam Waring 1, elev 2085 ft, fsh 2300 ft. Gene Mays et al's Hartgrove 1, dr 1585 ft. Exploration Co.'s Wilson-Hartgrove 1, elev 1618 ft, sd 1675 ft. J. R. Lewis et al's Plants 1, lcn. Mullen-Davis et al's Martin 1, dr 2215 ft.

Crane County—Church & Fields' University 2, lcn; University-Duoll 1, sp. Geo. Church & Bert Weekly's University 1, top salt 1070 ft, flowing 2350 bbls oil 2842-81 ft. Carl Cromwell & Frank Pickrell's University 1, elevation 2651 ft, top salt 1015 ft, top lime 2740 ft, flowing by heads dr pay 2809-45 ft. Eastland Oil Co. & Collett-O'Keefe's University 2, top salt 1100 ft, dr 2115 ft; University 4, top salt 1041 ft, top lime 2770 ft, sd for storage, flowing 200 bbls daily 2835-36 ft; University 8, top salt 1115 ft, sd for storage 2820 ft; University 3, 5, 6 and 7, lcns. Gulf Prod. Co.'s Crier-McElroy 6, rig; Crier-McElroy 4-A, rig; J. T. McElroy 8, top salt 965 ft, dr 1410 ft; McElroy 9, dr 940 ft; McElroy 1-B, elev 2585 ft, top salt 1220 ft, dr 2710 ft; University 3, elev 2599 ft, top salt 1160 ft, top lime 2902 ft, dr 2920 ft; University 5, elev 2603 ft, top salt 1220 ft, dr 2655 ft; University 6, elev 2597 ft; top salt 1210 ft, dr 2690 ft; University 7, elev 2597 ft, top salt 1235 ft, dr 2640 ft; Waddell 1-A, fsh 766 ft. Humble's University 3, elev 2587 ft, top salt 1070 ft, dr 2770 ft; University 4, elev 2576 ft, top salt 1100 ft, set 6¾ in. 2840 ft; University 5, elev 2587 ft, top salt 1120 ft, dr 2560 ft; University 6, elev 2565 ft, top salt 1180 ft, dr 2145 ft; University 7, elev 2589 ft, top salt 1130 ft, dr 2200 ft; University 8, top salt 1160 ft, dr 1500 ft. Independent O. & G. Co.'s University 1, elev 2555 ft, top salt 1095 ft, dr 2235 ft; University 2, sp. Magnolia's University-Hardwick 2, elev 2566 ft, top salt 1065 ft, dr 2530 ft; University-Hardwick 3, 7 and 8, rigs; University-Hardwick 4, dr 1170 ft; University-Hardwick 5, dr 1430 ft; University-Lassiter 2, elev 2606 ft, top salt 1175 ft, dr with hfo 3010-47 ft; University-Lassiter 3, rig; University-O'Keefe 7, dr 1030 ft; University-O'Keefe 9, dr 200 ft; University-O'Keefe 6 and 8, rigs, Marland & F. P. Zoch et al's Cowden 1, elev. 2585 ft, top salt 995 ft, dr 3070 ft. McMan O. & G. Co.'s Hughes 2, elev 2597 ft, top salt 740 ft, swab 140 bbls oil 15 hours after shot 150 qts 2370-2410 ft, td 2420 ft. Prairie O. & G. Co.'s University 6-A, elev 2590 ft, top salt 1140 ft, flowing 80 bbls oil daily, fsh tools 2965-3015 ft; University-Lassiter 1, elev 2585 ft, top salt 1210 ft, dr 2510 ft. Simms Oil Co. & Atlantic Oil Prod. Co.'s University 4-A, elev 2581 ft, top salt 1110 ft, dr 2870 ft; University 5-A, top salt 1045 ft, dr 2470 ft; University 6-A, dr 1540 ft; University 7-A, dr 1475 ft; University 1-C, elev 2583 ft, top salt 1115 ft, flowing 60 bbls oil hourly 2840 ft; University 2-C, fsh 520 ft, University 3-C and 4-C, lcns; University 1-D, top salt 1010 ft, dr 2340 ft; The Texas Co.'s University 1, dr 560 ft. Tidal Oil Co. & Turman-Maxwell's University 2-E, elev 2557 ft, top salt 1035 ft, dr 2800 ft; University 3-F, elev 2565 ft, top salt 1080 ft, dr 2765 ft; University 4-F, top salt 1060 ft, dr 2165 ft; University 1-H, fsh 670 ft; University 2-H, dr 515 ft.

Crockett County—V. T. Bolin & Co.'s P. O. Coates 1, sd 930 ft. Cumberland O. & G. Co. et al's Couch 1, sd 2705 ft. W. W. Donnelly & J. D. Young's Pierce 1, elev 2105 ft, dr 1140 ft; Shannon 1, machine. Geo. A. Henshaw Jr. & Co.'s University 1, elev 2297 ft, top salt 450 ft, top lime 1697 ft, dr in sulphur water 1725 ft. J. K. Hughes Dev. Co.'s Powell 2-B, sd 2535 ft. Magnolia's Shannon 2, elev 2670 ft, top salt 925 ft, top lime 2270 ft, dr 3185 ft. Wm. Schaffer et al's University 2, rig. World Oil Co.'s Schneeman 1, elev 2632 ft, top salt 1035 ft, top lime 2280 ft, ur 2560 ft. P. H. Williams et al's Powell 1, dr 200 ft. J. D. Young & Cromwell's University 1, dr 1855 ft.

Crosby County—El Capitan Oil Co.'s Slaton 1, elev 2854 ft, top salt 1270 ft, dr hfw 2590 ft.

Culberson County—Jas. H. Gardner et al's Radford-State 1, sd 295 ft.

Jeff Davis County—Humble's C. Flores 1, dk. J. K. Hughes Dev. Co.'s J. S. Means 1, dr 1945 ft.

Ector County—J. S. Cosden et al's Connell 2-A, dr 155 ft; Connell 3-A, lcn.

Fisher County — Barbour Oil Co.'s W. A. Cross 1-A, dr 1150 ft. California Co.'s Anderson 1, dr 3145 ft; Magenheimer 1, elev 2004 ft, dr 3520 ft. Hucony Gas Co.'s Langford 1, elev 2201 ft, dr with show oil and water 2875 ft. Marland Oil Co.'s Hodges-Rochelle 1, dr hfw 3390 ft. Marland & Texon Oil & Land Co.'s McCall 1, materials. Fred Phillips et al's C. M. Webb 1, elev 1811 ft, sd hfw 2715 ft. R. W. Rainey et al's Marberry 2, sd hfw 2725 ft. Sinclair O. & G. Co.'s I. A. Denise 1, fsh 180 ft. Stearnes & Streeter's W. A. Howe 1, dr 2725 ft. F. P. Zoch & McCamey's Clayton 1, elev 2135 ft, dr 3540 ft; Lanius 1, dr 3410 ft.

Garza County—Emerald Oil Co.'s Boren 1, sd 1765 ft. Pandem Oil Corp.'s Justice 1, rig.

Glasscock County—Green et al's Oxshear 1, rig. J. S. Merriwether et al's McDowell 1, lcn; R. R. Penn & Julian Pet. Corp.'s Edwards 1, dk.

Tom Green County—Marland's Llano County Fee 1, ur 12½ in. 612 ft. Fitzgerald & Taliaferro's Bennett 1, rig.

Hockley County—El Capitan Oil Co.'s Ellwood 1-A, ur 720 ft.

Howard County—Bowers et al's C. Jones 1, spd and sd. Bristow & Merrick's A. J. Hooks 2, dr 1350 ft; Hooks 3, spd and sd. Fred Carey et al's Chalk 1, sd 250 ft. Comet Pet. Co.'s H. R. Clay 1, co after shot 1810-31 ft. Dixie Oil Co.'s Clay 1, pumping 70 bbls oil 1940 ft. W. W. Donnelly & Mann's Martin 1, dr 1180 ft. Francis et al's Furrh 1, lcn abn. L. C. Harrison et al's Robert 1, spd and sd. Humble's Douthitt 3, dr 625 ft. Lockhart & Co.'s Chalk 3, dr 1200 ft; Chalk 2-A, dr 1360 ft. Magnolia's Hyman-Chalk 3, lcn; Mary-Chalk 4, dr 1450 ft; Mary-Chalk 5, 6 and 7, lcns; Kelly-Chalk 1-A, sp; Kelly-Chalk 2, rig; Kelly-Chalk 3, dr 150 ft; G. O. Chalk 5 and 6, lcns; Owen-Chalk 5-A, lcn; Owen-Chalk 7-A, dr 1575 ft; Owen-Chalk 8-A, dr 1400 ft; Sloan-Chalk 2, lcn; Sarah-Hyman 3, lcn; Roberts 1, lcn. Marland's Chalk 9, lcn; Chalk 10, testing oil pay 1605-22 ft; Chalk 5-A, sd 1550 ft; Chalk 6-A, sd 1531 ft; Chalk 7-A, set cas 1501 ft; Chalk 8-A, dr 360 ft; H. R. Clay 2, testing oil pay 1795-1803 ft, td 1844 ft; Clay 3, sd 1701 ft; Clay 4, dr 1070 ft; Clay 5, dr 1655 ft; Clay 3-A, dr 1650 ft; Clay 4-A, dr 1610 ft; Clay 5-A, dr 690 ft; Clay 1-C, sd hfw 1817 ft; Clay 1-D, sd 1890 ft; Harding 1, ur cas in water sand 1810-60 ft.

Irion County — Cashdollar-Whitmire's Abe Meyer 1, elev 2050 ft, dr 2505 ft; Bird-Roberts 1, elev 2065 ft, sd 1085 ft.

Jones County—Atlantic & Landreth's Howell 2, fsh 2225 ft. Bateman & Campbell's Southard 1, sd 1990 ft. Gault Brown et al's Mrs. Zips 1, materials. E. P. Campbell et al Herndon 1, sd 1850 ft. Cole-Hart et al's Cranston 1, dr 3060 ft. Consolidated Oil Co.'s Armand-Taylor 1, sd 1510 ft. Garland & Diamond's Glynn 1, lcn. Hurley Oil Co.'s (Gibson-Johnson) John Spears 2, dr 2155 ft; Largent 1, testing cas 2525 ft. Gillette & Hickey et al's S. Wi King 1, dr 2071 ft; M. E. Young 1, sd 1200 ft. Grisham-Hunter & Wildman Pet. Corp.'s Burchfield 1, elev 1820 ft, ur 2960 ft; Williams 1, sd 2660 ft. Hutson & Weaver's Smith 1, sd 700 ft. Kirk & Brewer's Milsap 1, dr 710 ft. Marland's Larsen 1, ur 8¼ in. 2025 ft. Marsten Oil Co.'s Howell 1, dr 2290 ft; Swann 1, set 12½ in. 652 ft. Mid-West Exploration Co.'s Thornton 3, testing oil pay 2513 ft; Thornton 4, swabbed 176 bbls oil first 12 hours 2505-14 ft. Mid-Continent Pet. Corp.'s H. Evans 1, dr 2320 ft. Vic H. Martin et al's Culberson 1, sd 3240 ft. McLester et al's Will Myatt 1, dr 2735 ft. Stebbins O. & G. Co.'s J. M. Higgs 1, dr 1370 ft. W. G. Stugh et al's J. P. Willis 1, sd 730 ft. Phillips Pet. Co.'s Howell 1, lcn; Winters 3 and 4, rigs; Thornton 1, fsh 2818 ft; Tessie-Walling 4, dr 450 ft; Tessie-Walling 5, lcn; World Oil Co.'s Clark 1, dr hfw 2930-33 ft; Boyd 1, mudding 8¼ in. 2023 ft. Swensondale Oil Co.'s Canton 1, sd 435 ft. J. L. Tomberlin et al's Clapp 1, machine. Zeigler et al's J. W. Reeves 1, dr 1595 ft.

Kent County—Douglas Oil Co.'s Scoggins 1, dr 315 ft. Marland & Texon's Bilby 1, lcn.

King County—Gibson & Johnson's Burnett 1, spd and sd. Mid-West Explo. Co.'s Patton 1, rig. Phillips Pet. Co.'s Burnett 1, spd and sd. Mid-West Explo. Co.'s Patton 1, rig. Phillips Pet. Co.'s Burnett 1, dr 1180 ft. Sinclair's Burnett 1, spd and sd. J. L. Pattison et al's Patton 1, sd 1280 ft. White Eagle O. & R. Co.'s Burnett 1, dr 650 ft.

Loving County—Owen-Sloan et al's Johnson 1, rig. Kingwood Oil Co.'s Moore 1, dk.

Mitchell County — Magnolia's Mary Foster 4, dr 2680 ft; T. L. McKinney 1, dr hfw 1350 ft; W. W. Watson 2, dr 2620 ft. Morrison & Thompson's Griffin 1, dr 2595 ft. Paul Teas et al's Ed. Strain 1, dr 1550 ft. Robert Thraves et al's C. Way 1, rig. B. E. Walters et al's Dollen 1, dr 3870 ft.

Nolan County—Day et al's Arledge 1, lcn. A. G. Malone et al's Carlyle 1, lcn; McElmurray 1, spd and sd. Herbert Oil Co.'s Pepper 1, rig. Phillips Pet. Co.'s Scott 1, dr 640 ft. Thomas & Reynolds' Allen 1, sd 835 ft. Stein & Greeben's L. W. Ross 1, lcn.

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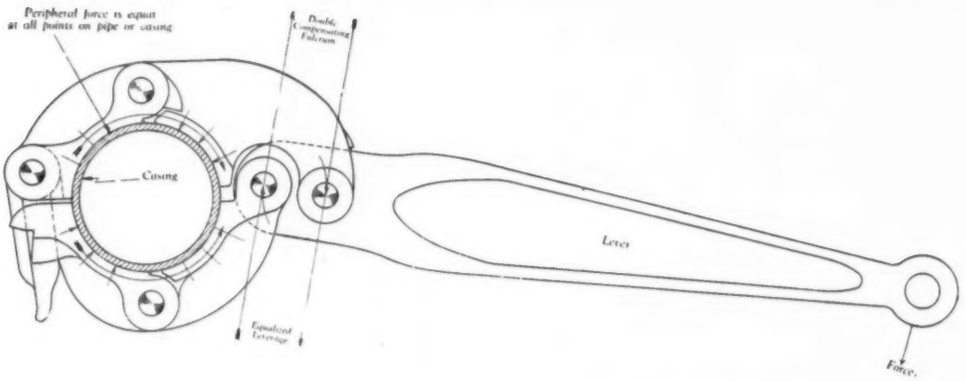

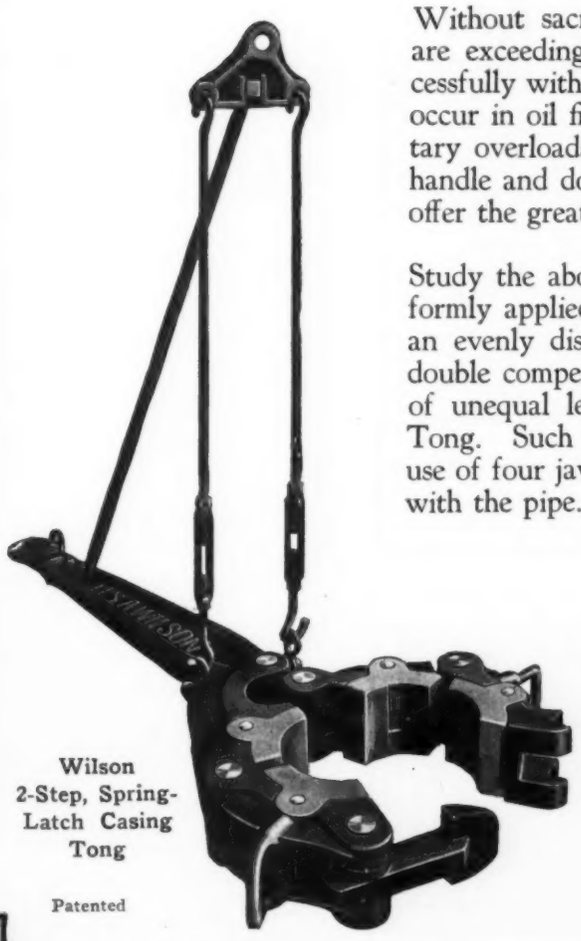

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Walford et al's H. D. Simpson 1, lcn. John H. Winemiller Corp's W. L. Booth 1, dr 915 ft. Henry Zweifel & Hofmeier's Longbotham 1, dr 1170 ft.

Pecos County — Arkansas Fuel Oil Co.'s Manly Holmes 1, ur 10 in. 530 ft. Buell-Hagen et al's Jasper 1, lcn; Southern Life-Batchelor 1, fsh 1985 ft; University 1, elev 2816 ft, top lime 1935 ft, dr 2795 ft; McKenzie 1, dr 455 ft. Carl Cromwell & Kimberlin's Blackman-Scharff 1, elev 2402 ft, top salt 890 ft, sd 1400 ft. T. R. Cowell's J. C. Trees 1, elev 2545 ft, top lime 2875 ft, sd hfw 3110 ft. California Co.'s Cordova Union 1, elev 2615 ft, salt at 834-50 ft, dr 1280 ft. Crosby Drilling Co.'s I. G. Yates 1, sec 70, sd flowing sulphur water 1540-77 ft. John Droppleman et al's Hersheusen 1, sr 350 ft. Del Rio Synd.'s Perry 1, sd 740 ft. Garland & Mott's El Paso 1, lcn. Kershaw & Livingston's Cannon 1, lcn. Humble & Kirby Pet. Co.'s Rheinstrom 1, elev 2351 ft, top salt 830 ft, show gas 2000 ft, hfw at 2260-90 ft, dr 2355 ft; J. F. McElroy 1, lcn. Mid-Kansas & Transcontinental's I. G. Yates 4-A, sp; Yates 1-C, machine; Smith-Taylor 1, rig. Texon Oil & Land Co.'s Yates 1, testing oil pay 1300 ft; Yates 2, dr 155 ft; Yates 3, lcn. Texon & Marland's Blakesley 1, rig. Quinby Oil Co.'s A. A. Gray 1, dr 350 ft; Bennett 2, fsh 1405 ft; Townsite 1, sd 3455 ft. World Oil Co.'s M. Serf 1, machine.

Presidio County—Hadlock & Miller's Tootle 1, co 2255 ft.

Reagan County — The Texas Co.'s J. D. Suggs 2, elev 2549 ft, top salt 860 ft, top lime 2110 ft, cased off hfw 2130-50 ft, dr 2500 ft. Tidal Oil Co.'s University 1, dr 215 ft.

Reeves County—Deep Rock Oil Co.'s Caldwell 1, sd 2350 ft. Humble's T&P Fee 1, fsh 1380 ft. The Explo. Co.'s A. A. Kinney 1, spd and sd.

Runnels County—Asso. Pet. Co.'s W. M. King 1, spd and sd. Bell & Moore's Ferguson 1, spd and sd. Ladd-Hill & Yates' McMillan 1, show oil 590 ft, dr 685 ft.

Schleicher County — Thomas Gray et al's Robinson 1, spd and sd.

Scurry County—Northwest Co.'s Stinson 1, sd 3900 ft.

Sterling County — P. H. Williams et al's Clark 1, dr 850 ft.

Stonewall County—Geo. A. Henshaw & Co.'s Brown 1, lcn. F. P. Zoch & McCamey's Ward 1, dr 115 ft.

Taylor County—Gibson-Johnson et al's I. F. Hendry 1, dr 810 ft. Grisham-Hunter Corp.'s Huddleston 1, dr 2410 ft. Humble's Mattie Jacob 1, dr 780 ft. Halbert et al's Hunt 1, sd 1265 ft. Dorning & Perrine's J. A. Hammer 1, sd 250 ft. Mid-West Exploration Co.'s Dora Smith 1, sd 1520 ft; Toombes 1, dr 1785 ft. Mitchell & Breene's Tittle 1, lcn. Morrison & Thompson's Alice Rose 1, ur 10 in. 1085 ft. Oil Operators Trust's Haines-Hamilton 1, sd 2505 ft. Owen-Sloan et al's I. T. Latimer 1, dr 205 ft. Roeser & Pendleton Inc.'s Sam Butman 1, sd 710 ft. Sanger O. & R. Co.'s Ike Brown 1, fsh 1900 ft. Gillespie 1, sr 6⅝ in. 3970 ft. World Oil Co.'s J. R. Griffin 1, rig.

Upton County—Curtis-Hults et al's Giddings 1, sd for cas 3615 ft. W. W. Donnelly & Marland's University 1, elev 2884 ft, top salt 1550 ft, dr 2320 ft. Sartain Oil Co.'s Bull 1, sd 3300 ft.

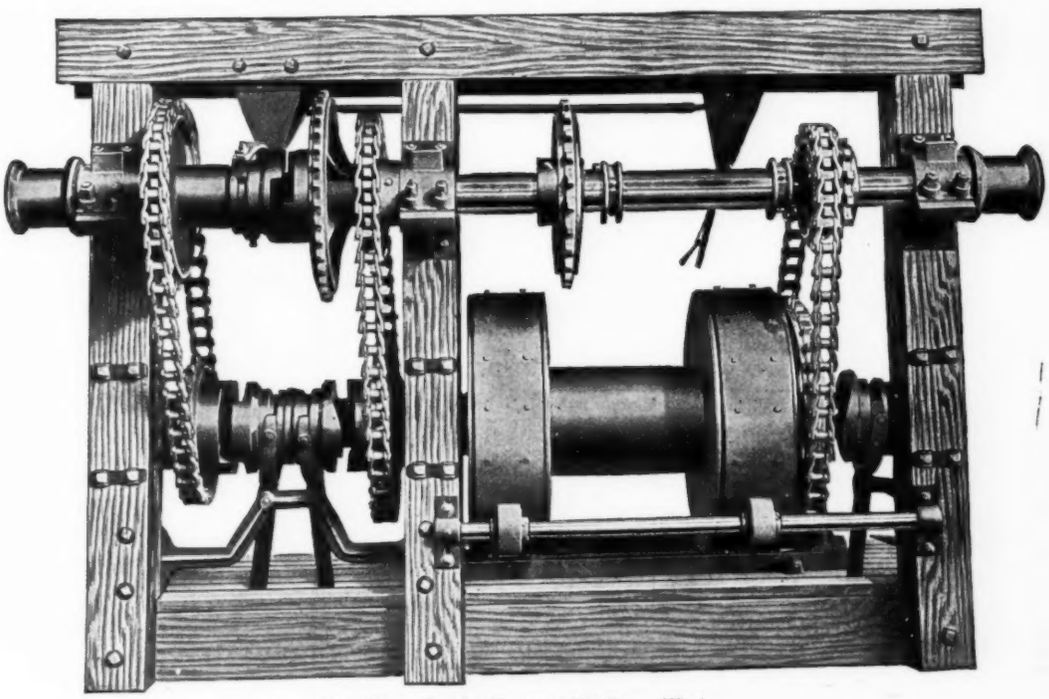
Val Verde County—Douglas Oil Co.'s Sellars 1, crooked hole 2350 ft. Magnolia's W. E. Whitehead 1, rig. S. A. McCaskey's Sellars 1, fsh 2525 ft. O. O. Owens et al's Mills 1, dr 965 ft. Transcontinental Oil Co.'s Stevenson 1, fsh 4412 ft. E. T. Williams et al's Holman-McNutt 1, dr 2605 ft.

Ward County — Marland Oil Co.'s Jennie Sealy 1, elev 2820 ft, top salt 1070 or 1100 ft, dr 2215 ft.

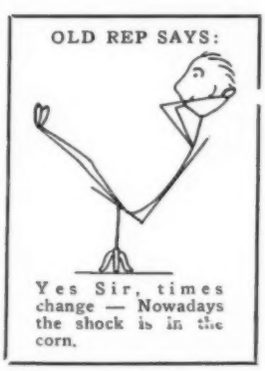
Winkler County—Champlin Ref. Co. & Marland's Cowden 1, set 10 in. 785 ft, co 940 ft. Gulf's T. H. Hendrick's 2, 3, 4 and 5, steel dks. sd by agreement. Ed. S. Hill-Ladd & Simon's Ambrugey 1, elev 2995 ft, top salt 1220 ft, sd 3447 ft. Humble's T. G. Hendricks 1, rig; Hendricks 1 (Group 1), sp. Independent O. & G. Co.'s Hendrick 1, no salt, dr 2155 ft. Llano Oil Co.'s Scarborough 1,

THE NEW GUMBO BUSTER 78A DRAW WORKS

Designed For Present and Future Drilling



Rear View Gumbo Buster 78A Draw Works



This Draw Works will not be out of date in a short time. It is big enough and strong enough to take care of the deeper wells that will be drilled in the years to come.

The Gumbo Buster 78A Draw Works has a 7″ line shaft, 8″ drum shaft, 20″ spool, 12½″ brake bands, 10x14 hardwood posts, all steel clutch blocks and sprockets, a front equalized floor brake, and other desirable features.

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The six-bladed Perfection Bit Head will make more hole than a fishtail bit.

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Monadnock Bldg., San Francisco, California

elev. 1 2921 ft, top salt 1115 ft, water trouble 1885 ft. McCullough & Marland's Tobe Morton 1, dr 1420 ft. R. S. Matthews et al's Cowden 1-A, sp. Pure Oil Co.'s Central State Bank Fee 1, sp. Skelly Oil Co.'s M. M. Leeman 1, elev 2951 ft, top salt 1167 ft, dr 1710 ft. Southern Crude Oil Purchasing Co.'s Hendricks 1-C, elev 2801 ft, top salt 1910 ft, top lime 2597 ft, dr 2835 ft; Hendricks 2-C, elev 2824 ft, top salt 1901 ft, cmt 8¼ in. and std 2553 ft; Hendricks 3-C, dr 1210 ft. White Eagle's R. A. Leck 1, materials.

Will Complete Deep Test At Kevin-Sunburst

Great Falls, Mont.—The completion of the old Frazer-Rice deep test, northwest quarter of section 17-35-1, seems sure with the announcement of the sale of the lease to the Homestead Exploration Company, which is a subsidiary of the Texas Pacific Coal and Oil Company. The test has attracted much attention at various times because of the quality of the oil found in the deeper sands. In nearly all Rocky Mountain fields, the lower sands contain a heavier grade of oil than the shallower formations. In this deep test, the opposite is the case. A sand was encountered at 3380 feet which produced some oil of 40 gravity. The crude was of paraffin base and very rich in gasoline. Above the oil sand, a gas formation was found. The flow was small but the pressure extremely high. Water accumulates in the hole, but is forced out by the gas pressure. A few barrels of oil always accompanies the water. Tools were run at various times, but several fishing jobs resulted. The tools now in the hole will be recovered and the test continued. The proving of a deeper sand in the Kevin-Sunburst field would stimulate drilling throughout the field.

Los Angeles Interests Enter New Mexico

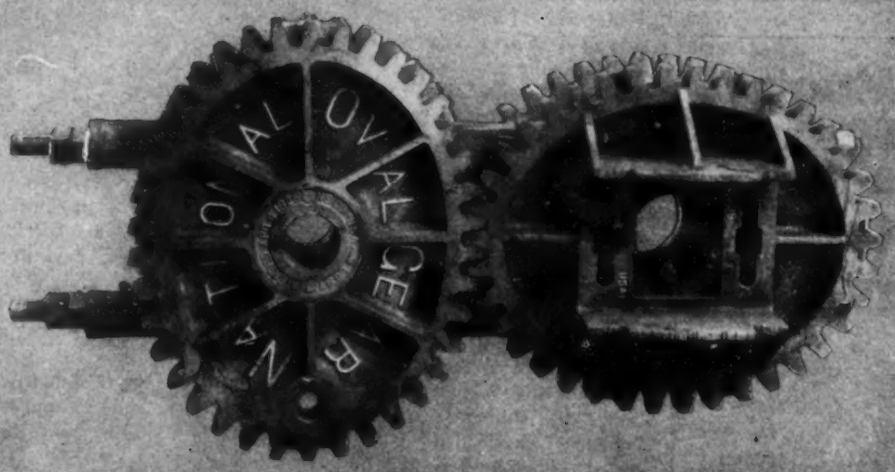
Los Angeles.—George F. Getty and the Superior Oil Company, both headquarters in Los Angeles, plan to participate in developments of petroleum reserves of southwestern New Mexico.

The former is reported to have taken a lease on 16,000 acres south of the Artesia field with intentions of drilling within 30 days, whereas the latter is having a geological survey made of its New Mexico holdings under supervision of Glenn Stewart.

Little Basin Structure

Billings, Mont.—Prairie Oil and Gas Company has reached a depth of 1220 feet in its test of the Little Basin structure, section 23-3-21, and should find the Frontier sand within the next few hundred feet. Nearly all sands found in Montana and Wyoming are expected under 4000 feet. The structure is a small one and is controlled by the Prairie interests. No other wells have been drilled in the immediate locality.

NATIONAL OVAL GEAR PUMPING ATTACHMENT



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Look for the name "ALTEN'S" on each one

VALVE RODS
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STUFFING BOXES
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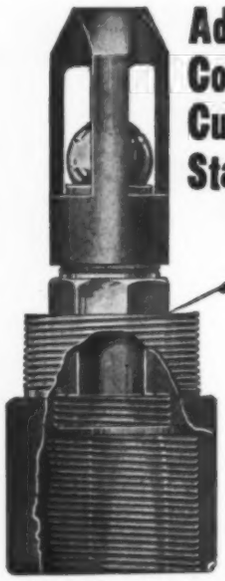

A non-blowout valve used in wells where troubled with gas. It is screwed into an ordinary top cuff on the bottom of the working barrel, and having no leathers, it saves the resetting and turning of leathers as on the ordinary lower valve. Easier to Install, Lasts Longer. Sizes 1¼, 2¼, 2¾ and 3¾.

WRITE FOR PRICES

Southern Brass Mfg. & Plating Company
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Pure Uses Central Control in Lift Work

Continued from page 30

The Pure installation marks the first of its type in the field, where the volume of gas or air under pressure is controlled by the installation of automatic recording volume control instruments. With 11 wells flowing under the air or gas lift system, and with one well soon to be on the compressor, there was, in the building at the time of the writer's visit, twelve Foxboro automatic recorder controllers, one of these instruments being installed for the control of each well operating under the system. The control instruments are air operated.

This centralized control room is manned by operators working eight hour shifts. Each hour the charts are read and calculations made to determine the cubic feet of gas or air flowing to the individual wells. Illustrating the manner in which the control instruments function the operating pressures of several of the wells were noted by the writer. The compressed gas entering the header line through which it is conducted into the control room from the compressors, was under 295 pounds pressure. From the header line the gas is diverted into the several lines conducting it to the separate wells. Operating pressures of eight of these wells was variously recorded as 150, 150, 185, 170, 125, 180, 185 and 200 pounds. These readings are in terms of pressure at the well which is required to make it flow successfully. The pressure is, of course, not controlled, but only the volume of gas required to flow the well. If the volume is controlled and sufficient volume is injected into the well to cause its flowing, then the pressure naturally takes care of itself. From the pressure readings on the instruments, however, the volume of gas entering each or any well is calculated by the operators on duty in the control room. The pressure merely adjusts itself according to the requirements of the individual wells. Leaving the control room the air or gas under pressure and controlled as to volume is taken through the lead lines to the well, where it enters through the tubing and is cycled through the well emerging with the oil production flowing out of the casing. The advantage of such centralized meter or control houses lies in the fact that each and every well is under the continuous scrutiny of the operators. If anything goes wrong with the operation of a single well, some influence causes the pressure to mount rapidly for example, if some conditions causes the well to cease flowing with a corresponding drop in pressure, etc., this condition is instantly noted by the men in the control house and reported to the engineer in charge, who then can immediately take steps toward the rectification of the harmful condition. This type of control also does away with the installation of individual meters and such equipment at the well itself and is conducive to the saving of much time and labor in that the instrument charts may be changed in a very few minutes in one building, without the meter or chart reader, or gatherer having to traverse the entire distance from well to well all over the lease. Ultimately there is every possibility that 16 to 20 wells may be operating under gas or air lift on this property and the item of convenience and time saving in controlling the entire system from one small control house is readily acknowledged as of some importance.

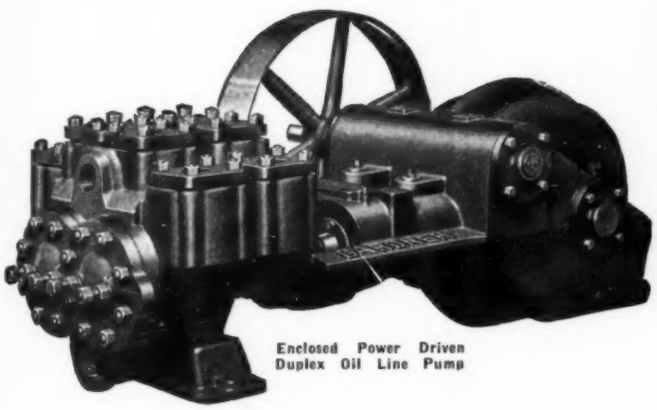
Since the automatic recording control instruments indicate the pressure of each well in operation in the control house, it is unnecessary to install pressure gauges at the well. The separator is installed very close to the derrick floor and erected a few feet above this level. The oil and gas emerging from the well is conducted through only a few feet of lead line to discharge into the trap. It has been proven with many installations of the air-gas lift system in the Seminole area that it is advantageous to place the separator just as close to the well as possible in order to effect separation of the oil from the gas just as soon as possible.

The presence of high static head, or high fluid level in Seminole wells are contributed importantly to the success of the air-gas lift systems in the area. With these conditions generally prevalent in the field the application of the gas or air lift has been generally successful. As much submergence as possible is sought by the engineers intalling the lift systems. The tubing, which extends a few feet below the bottom of the casing, is not lowered to a few feet below the fluid level, but is carried on down to submerge in some instances 1500 feet, and deeper. Engineers for the Pure Oil Company are operating the gas or air lift with a volume of gas circulated ranging from around 300,000 cubic feet in one well to as high as 740,000 cubic feet daily in another. Others range between these figures.

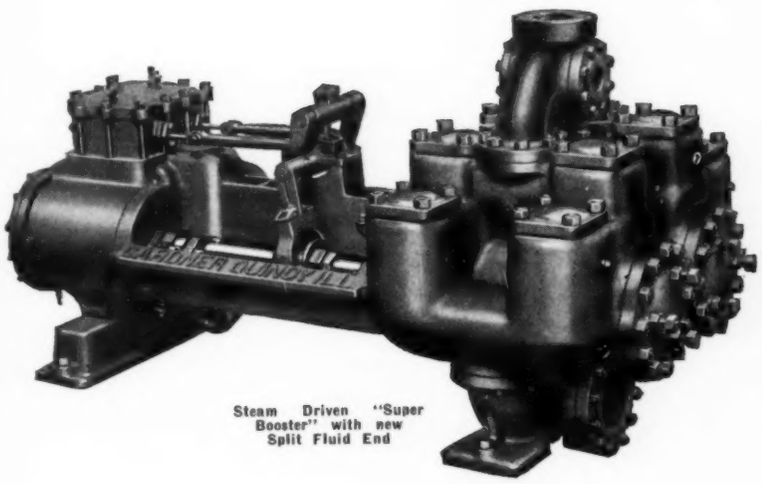
The rich gas leaving the wells, separated from the oil in the separators, is then taken again to the compression plants, where it is stripped of its gasoline and again discharged into the header line under about 300 pounds pressure, for recycling through the wells. The air-lift wells, of course, are equipped in such a manner that upon separation of the air and oil in the trap, the air is conducted through a vent line and dissipated into the atmosphere. Gas returning from the wells is at present metered into the compression

Oil Line Pumps

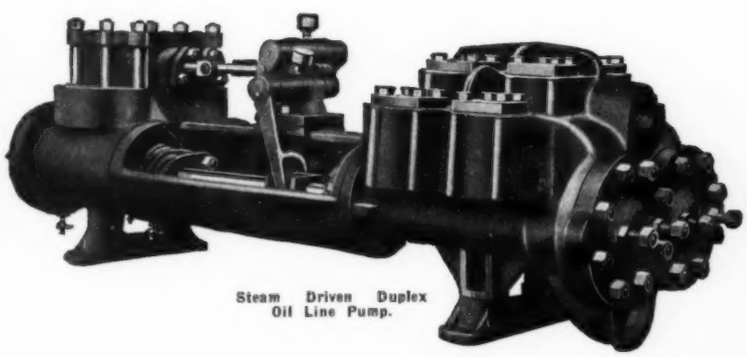
For All . . Conditions and Pressures



Enclosed Power Driven Duplex Oil Line Pump



Steam Driven "Super Booster" with new Split Fluid End



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You will find Gardner line pumps in all fields keeping the oil moving under the most difficult conditions.

Correctly designed, thoroughly tested by years of satisfactory service and built with the best material from more than sixty-five years of manufacturing experience Gardner pumps can be depended upon to keep your crude moving.

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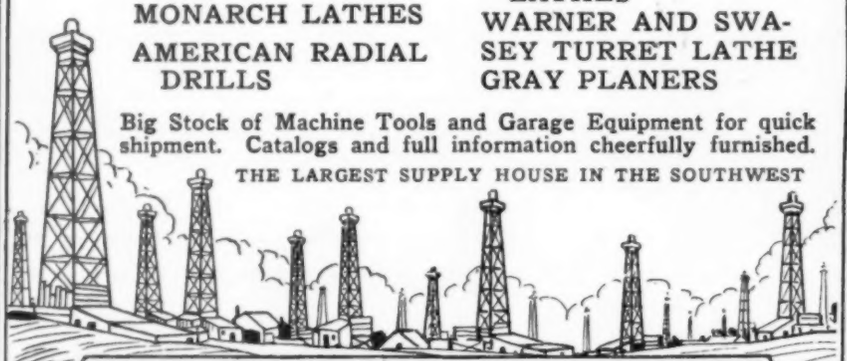

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HOUSTON – SAN ANTONIO – SHREVEPORT

plants by the gasoline department. This voulme of returned gas checked against the volume of gas discharged into the wells will be the source of definite information dealing with the gas-oil ratios for the lease operation.

This installation is one large centrally located gas-air lift plant, and especially the method of control used by the company through the installation of one control house is being watched with interest by other operators in the field. Another advantage of the centralized control room lies in the fact that through the installation of steam coils in the building, danger of freezing of the instruments in winter is eliminated, and they are at all times protected from the weather without the construction of several individual meter boxes or houses, such as are usually built around the meter or control instrument in the field.

Midwest Will Carry Utah Test to 6000 Feet

Salt Lake City, Utah.—The Midwest interests, which include the Utah Southern and the Midwest Exploration Companies, are considering the abandonment of Frank Shafer No. 1, section 6-27-21, on the Cane Creek structure. The well has been shut down, pending the outcome of J. H. Shafer 1, which is drilling nearby. The companies are concentrating on deepening the latter well, which is now bottomed at 5300 feet. It is drilling in the salt beds. Preparations are being made to drill to 6000 feet if necessary. Frank Shafer 1 is shut down at approximately 5000 feet with no definite sand in sight.

Inglewood Well Put on Production

Los Angeles.—Standard Oil Company of California, on March 28, placed on production its Baldwin 52 in the northeastern section of Inglewood for an initial production estimated at 250 barrels. Total depth of the well is 2180 feet.

Present developments in the Inglewood oil field are limited largely to the Standard's Baldwin and Stocker, but the field yet has a deeper zone in reserve that is practicallly untapped.

Texas Company Planning Test in Utah

Salt Lake City, Utah.—The Texas Production Company has acquired upward of 10,000 acres in Wayne County and plans to drill a deep test on the holdings as soon as all titles to the permits have been confirmed. The leases lie on the Sweetwater uplift and cover one of many structures in the immediate region.

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The body of the GUIBERSON Underreamer is forged from a solid block of steel. Cutters are extra strong, and dovetail into body on a taper, giving a firm seat with no play. Superior spring of great strength keeps cutters securely in position. You can give the GUIBERSON Underreamer a long, fast stroke, under any conditions, with complete confidence that it will do the work and come out whole.

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MALONEYS are ideal for meeting fluctuating tankage needs. The exceptional ease with which they are erected and dismantled is the result of careful standardization and of the Maloney patented "crimp".

MALONEYS are constructed of rust-resisting Keystone Copper Steel. Seams are strongly reinforced with steel channels and strips. Cleaning-out plates are set flush with bottoms.

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Distributors at All Principal Petroleum Points
Sizes 12 to 3,000 Bbls.

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BUY USED PIPE

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4,800'	4-¾"	15 *lb.* used casing
20,000'	5-3/16"	17 *lb* used casing
15,000'	6-⅝"	24 *lb.* used casing
10,000'	8-¼"	32 *lb.* used casing
3,000'	8-¼"	28 *lb.* used casing
4,000'	10"	40 *lb.* used casing
15,000'	2"	used tubing and rods
8	25	H. P. Used Gas Engines
2	5"	Standard Rigs
8	6"	Standard Rigs
80,000'	3"	Used line pipe
50,000'	4"	Used line pipe
20,000'	6"	Used line pipe

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Government Files Brief In Cracking Suit

Washington.—A brief of nearly 600 pages was filed with the Special Master in Chancery at Indianapolis by the Department of Justice April 4, following the completion of the taking of testimony in the government's anti-trust suit against 46 refining companies, including the Standard Oil Companies of Indiana and New Jersey, The Texas Company, the Gasoline Products Company (a licensing corporation), designated "primary defendants" and a large number of so-called independent refining companies, designated "secondary defendants." The suit, which is pending in the United States District Court for the Northern District of Illinois, charges monopoly in the use of "cracking" processes.

The taking of testimony in the suit commenced in April, 1925, in Chicago, and was concluded last December in New York. The printed record of the testimony and exhibits introduced covers more than 9000 pages.

In its petition the government prays for a decree of the court adjudging that the system of cross-licenses among more than 50 defendants is an unlawful monopoly and an attempt to monopolize interstate and foreign trade and commerce in gasoline and hydrocarbon products. The system of license agreements attacked by the government includes some 200 alleged patents, owned by the large refining companies and the Gasoline Products Company, purporting to cover processes and apparatus for the production of gasoline by cracking. The government also contends that the license agreements restrict the territory in which gasoline may be manufactured and sold and limit the quantity of gasoline that may be produced by licensed refiners.

The oil companies' position is that the combination is justified under the patents issued to them by the patent office, and that the cross-licensing system was necessary to avoid possible infringement litigation.

To meet this defense the government introduced considerable expert testimony to determine the scope and validity of the patents. Witnesses for the government also testified that the so-called "Adams patents," owned by The Texas Company, were obtained by fraudulent statements and affidavits, which the inventor, Adams, and The Texas Company urged upon the patent office to induce the issuance of patents.

In its brief the department points out that heavy royalty charges are imposed on independent refiners by the primary defendants, the amount of which is determined by mutual agreement. This, it is contended, constitutes an agreement to fix prices.

It is expected that oral argument in the suit will be held before the Special Master in Indianapolis during May.

A corner of our extensive metallurgical laboratory, famous for its contributions to the art of making alloy steels.

Engineers—Here's Your Answer to the Corrosion Problem

MEMBERS of the American Petroleum Institute and of the American Institute of Mining and Metallurgical Engineers recently gathered together to discuss the grave problem of corrosion in the oil industry. Our engineers, too, have been working to solve this problem and have produced Agathon Enduro Stainless Iron which resists many chemical agents that are the cause of rust and corrosion.

It is estimated that rust and corrosion cost the oil industry $500,000,000 a year. Agathon Enduro Iron will help to reduce this great loss.

Our metallurgists will gladly work with engineers in the application of this remarkable metal to equipment for the oil industry. Write for further information.

Central Alloy Steel Corporation, Massillon, Ohio

World's Largest and Most Highly Specialized Alloy Steel Producers

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Agathon Enduro Stainless can be—Spun, Forged, Welded, Riveted, Machined, Cold Worked.

Agathon Enduro Stainless resists—Abrasion, Alkali Solutions, Moist or Sea Air, Superheated Steam, Fruit and Vegetable Acids, and will not scale at High Temperatures.

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Clean-pure sparkling water ready to drink at all times. No matter where you are, the GOTT Water Can is health insurance.
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This enables us to load up to five cars per day of rigs, derricks, foundations, large structural TIMBERS for both cable tool and rotary work. Also we can make combination shipments of Pine and Fir.

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PERMITS

(Continued from page 74)

Co., Arrowood 1, B 4, C.C.S.L. sur, 450 ft to n and 150 ft to w line.

Cooke County—American Ref. Co., Dennis 13, T. J. Moss sur, 300 ft n of 11; 12, 300 ft w and 150 ft n of 10. Church & Fields, Duoll 1, S 39, B 30, Univ. Lands, (Crane County). Homer Chapman Oil Co., Montgomery 9, T. J. Hutchinson sur, 300 ft of 1. Sun, Dennis 2, T. J. Moss sur, 282 ft n and 150 ft to e line. Lynch, Stahl & Burress, Wallin 1, B. Anibal sur, 150 ft to n and w lines. Texas Co., Dennis 1, T. J. Hutchinson sur, 150 ft to s and e lines.

Crockett County—Wm. Shaffer, University 2, S 9, B 47, 2610 ft to w and 1350 ft to s line. P. H. Williams, Powell 1, S 53, B BB, GC&SF sur, 150 ft to n and e lines.

Coleman County—Amerada, Harris B2, No. 162, J. Sanders sur, 950 ft sw of 1; Harris A11, S 5, J. Sanders sur, 400 ft n of 10. S. J. Taylor, Reaves 1, J. M. Rine sur, 2350 ft to e and 450 ft to s line.

Crane County—Church & Fields, Duoll 1, S 39 B 30, Univ. Lands, 330 ft to s and 990 ft to w line. Independent Oil & Gas Co., University 2A, S 46, B 30, Univ. Lands, 330 ft to n and w lines.

Chambers County — Humphreys Corp., Barber's Hill 4, H. Griffith sur, 150 ft se of 2. Mills Bennett & Moody Corp., Fee 7, Wm. Bloodgood sur, 375 ft to w and 225 ft to n line.

Duval County—Humble, Welder-Wood 2, S 102, S. Alexander sur, 9000 ft s of 1. Houston Oil Co., Benavides C1, S 20, B 4, M. Arispe sur, 660 ft to n and e lines. Cole Pet. Co., Arispe 40, S 20 B 7, 660 ft to s and e lines.

Eastland County—E. V. Parsons, Love 1, T. A. Howell sur, 500 ft to n and w lines; Stevens 1, Wm. Graham sur, 300 ft to s and e lines.

Ector County—West-Texas Synd., Davis 1, S 16, B 42, Twp. 3S, 300 ft to n and 150 ft to e line.

Fort Bend County—Gulf, West-Schenck 10, T. Hobermaker sur, 450 ft to e and 50 ft to s line; Davis 40, M. Young sur, 375 ft se of 29.

Hutchinson County — Traveler's Oil Co., Kingsland 4, S 6, B Y, M&C sur, 330 ft to n and 660 ft to E line.

Howard County—Marland, Clay A5, S 139, B 29, w&nw, 648 ft to n and 200 ft to e line. Magnolia, Chalk 3, S 124, B 29, w&nw, 200 ft to S and w lines. Godley Oil & Gas Co., Hooks 1, S 140, B 29, w&nw, 150 ft to s and w lines F. M. Greene, Clay 2, S 126, B 29, w&nw 250 ft to s and e lines.

Hardin County—Gulf, Thomson 3, S. Jackson sur, 1200 ft to s and 100 ft to e line. Sun, Texas Crude Co. 174, No. 1, M. Hopkins sur, north central. Paraffine Oil Co., Knight 42, J. Knight sur, 40 ft to s and e lines. Acorn Oil Co., Paraffine 65, Knight sur, 424 ft to n and 68 ft to e line. Sterling Oil Co., Hooks 6, Choate sur, 75 ft s of 5.

Hunt County—Amerada Graner 1, No. 20, J. Hamilton sur, 2300 ft to n and 150 ft to e line.

Jack County—Wynne Bros., Millett 1, B 3, J. W. Williams sur, 160 ft to n and w lines. Empire Holding Corp., Snedeker 1, B 9, J. Robbins, 150 ft to n and e lines.

Jones County—Marsten Oil Co., Swan 1, S 16, R. Spiers sur, 330 ft to s and e lines; S. T. Swenson, Caton 1, S 9, D&D sur, 660 ft to w and 300 ft to s line.

Jefferson County—Yount-Lee, Davis 7, B 12, J. A. Veatch sur, 337 ft to w and 300 ft to s line; McFaddin, Weiss & Kyle 30, B 1, P. Humphreys 984 ft to e and 500 ft to n line. Texas Co., Garrick 1, J. A. Veatch sur, 50 ft n of center of s line.

Jeff Davis County—Humble, Flores 1, S 34, B 58, T&P sur 2462 ft to n and 4716 ft to e line.

Kleberg County—Humble, King 3, F. M. Diamond sur, 400 ft n of 2.

Liberty County—Gulf, Thomas 11, J. Devore sur, 200 ft sw of 7. Harrison, Electric Bldg., Quintette Oil Co. 1, S 125, H&TC sur, 400 ft to n and 50 ft to e line.

Limestone County—Magnolia, Thompson 8A, P. Varela sur; Thompson 9A, P. Varela sur; Thompson 14B, P. Varela sur; Thompson 10A,

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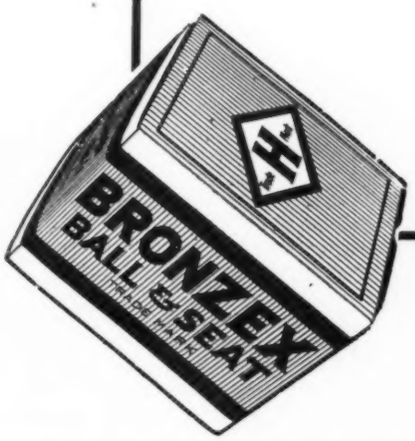
Made for use in wells where excessive sand is present—stands up under such punishment. Biggest selling ball and seat in the world!



Bronzex—made for use in wells where alkali or lodestone is present.

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ago HOUGH products were pleasing oil men—experience and reputation is back of these balls and seats.

Repelex—non-corrosive. Made for use in wells where acid or other strong elements destroy the efficiency of other types of balls and seats—rapidly gaining in popularity.

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Time required only for mixing and settling. Mixing often completed during normal flow of oil from well to tank. Settling takes only the time for normal oil and water to separate.

Wm. S. Barnickel & Co.

ST. LOUIS, MO.

P. Varela sur. Humble, Thompson 11, P. Varela sur, 100 ft w of 7.

Montague County — Continental, Salmon 9, W. P. Zuber sur, 300 ft e of 8. Panhandle Ref. Co., Bouldin 1, C. Chacon sur, 160 ft to s and e lines. Atlantic, Niehens 1, B 47, MEP&P sur, 628 ft to e and 150 ft to s line. Superior Oil Prod. Co., Easley 1, S 18, B 4, C. T. Ry. sur, 235 ft to n and 750 ft to e line.

Milam County—Clear Lake Oil Co., Coulter 1, T. S. Arnett sur, ne corner.

McCulloch County—J. C. Van Bebber, Shafer 1, S 2 B 2, Nelson sur, 600 ft to s and e lines.

McMullen County—Nelson & Woods, Shiner 1, No. 48 B 74, F. Gomez sur, 450 ft to n and 150 ft to e line.

Medina County—Western Gas & Fuel Co., Adams 7, Durst sur, 1500 ft e of 5.

Navarro County—Young & Olympic Oil Co., Chewing 6, Peoplet sur, 320 ft w of 5. Magnolia, Hardy 4B, S. F. McCandless sur, 300 ft se of 2.

Palo Pinto County—V. Martin et al, Lee 1, S. Townsend sur, 150 ft e of center of w line. Runhart & Hunhart, Weldon 1, S 394, B 4, SEP sur, 150 ft to n and 330 ft to w line Texas Pacific Coal & Oil Co., Stuart 154, B 4, S 71, T&P sur, 850 ft to e and 2025 ft to s line.

Panola County—Magnolia, Lewis 3, J. Johnson sur, 332 ft to e and 330 ft to S line.

Reagan County—Tidal Oil Co., University 1, S 20 B 8, Univ. Lands, 330 ft to n and w lines.

Shackelford County—Lualen Corp., English 1, 541 TE&L sur, 150 ft se of center of nw line; English 1, 572 TE& L sur, 150 ft to s and w lines; English 1, 541 TE&L sur, 150 ft to n and w lines; English 1, 572 TE&L sur, 150 ft to n and w lines. Sowell Bros., Wall 1, S 26, Bayland Asy. sur, 682 ft to w and 1334 ft to s line. M. F. Spillers, 1225 N. Windomere, Blach 3, 540 TE&L sur, 265 ft sw of 2; 4, 230 ft sw of 3. Barnsdall Oil Co., Jeter 1, S 15, B 11, T&P sur, 150 ft to s and e lines. Republic, Meyer 2, S 1, GH&H sur, 300 ft e of 1. Dull & Earls, Hromas 1, S 66, L.A.L. sur, 1320 ft to w and 150 ft to s line Humble, King 3, 216, TE&L sur, 150 to n and 1320 ft to w line. J. D. Willis, Willis 1, S 44, Univ. Lands sur, 170 ft to w and 180 ft to s line. Ray T. Hoff, Snyder 1, S 39, L. A. L. sur, 720 ft to n and 600 ft to e line. Humble, Davis 1, S 7, blk 13, T&P sur, 2440 ft to w and 2840 ft to S line. Shadbolt & Creighton, English 1, 537, TE&L sur, 450 ft to e and 150 ft to S line. Texas Consolidated Oil Co., Martin 9, 1041 TE&L sur, 1562 ft to e and 1875 ft to s line. J. D. Meredith, Cooke 2, S 19, Univer. Lands sur, 150 ft to e and 450 ft to s line. Lualen Corp., English 1, S 572, TE&L sur, center. C. W. Waddington, Jenkssin 1, S 27, blk 12, T&P sur, 450 ft to S and W lines. Prairie, Reynolds 1, S 18, blk 12, T&P sur, 150 ft to n and w lines. D. W. Tripplehorn, Bernstein 1, 53, TE&L sur, 150 ft to n and w lines.

Stephens County—Wm. McGinley, et al, Mitchell 1, S 64, blk 4, T&P sur, 330 ft to e and 660 ft to S line. Hickok Prod. & Dev. Co., Hamil 1, S 5, L. A. L. sur, 500 ft to e and 850 ft to n line. Corzelius Bros. & Taggart, Chesley 1, S 384, B. C. S. L. sur, 350 ft to s and w lines. Williams & Claugh, Compton 1, S 40, blk 7, T&P sur, 450 ft to w and 150 ft to s line; 2, 450 ft to e and 150 ft to s line.

Throckmorton County—Cranfill & Reynolds, Thomas 2, S 261, BBB&C sur, 660 ft to n and 150 ft to w line. Consolidated Oil Co. & Larkin & White, Conger 3, 943, TE&L sur, 300 ft s and 300 ft w of 2. Humble, Graham 3, 992, TE&L sur, 690 ft n of 2. Gulf, Graham 3, 985, TE&L sur, 200 ft to n and 600 ft to e line.

Taylor County—World Oil Co., Griffith 1, S 32, Blind Asy. sur, 330 ft to s and w lines.

Upton County—Prairie Oil & Gas Co., Lane 1, S 3, GC&SF sur, 330 ft to n and w lines.

Wichita County—Derby, Haines & Williams, Johnson 2, S 22, blk y (Hutchinson County). Continental Oil Co., Burnsides 4, J. M. Sharp

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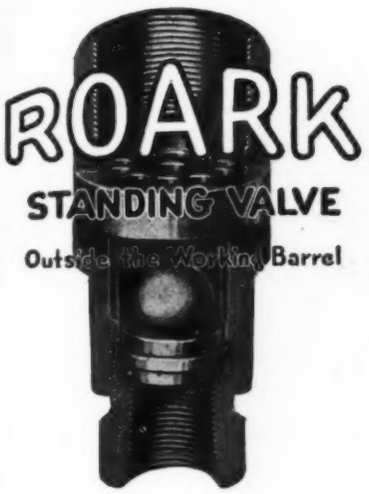
Patents Obtained, Trade Marks, Patent Causes

JESSE R. STONE

Formerly Assistant Examiner
United States Patent Office
Andrews, Streetman, Logue & Mobley
12th Floor Union N. Bk., Houston, Texas



Roark Makes Pumping Pay

Put a Roark Standing Valve in the hole and it works. Simple, durable, dependable.

Its quicker action means more oil. Its larger capacity is designed against Cut Oil and B. S. And by actual test reduces Cut Oil 50 per cent to 80 per cent. The Roark is almost indestructible; has but one wearing part, which is renewable at small cost. A new ball and seat and seat frame makes an old Roark Valve as good as new.

From Your Supply House

Texas Oil Pump Company
Waco, Texas

sur, 50 ft s of 3. Fresno Oil Co., Dodson 8, C. Winters sur, 300 ft w of 7; 9, 300 ft n of 8. L. C. S. Oil Co., 1B blk 13, B. N. Ferguson sur, 150 ft to w and 200 ft to s line. Maer & Staniforth, Henson 1, M. Stanforth sur, 150 ft to n and w lines. Continental, Kemp & Allen 1, S 8, blk 27, W. V. F. L. sur, 150 ft to n and 517 ft to e line. A. T. Wolfe & Son, Daume 12, 1, blk 1, S. P. Ry sur, 150 ft to n and 757 ft to e line. Cline Oil Co., Kemp & Allen 2, blk 44, W. V. F. L. sur, 150 ft to n and e lines. Simms, Waggoner 2, blk 12, H. George sur, 371 ft w of 1. Bailey-Damuth Drlg. Co., Waggoner 12, M. A. Willis sur, 300 ft e of 1. Texas Fidelity Oil Corp., Peeler 18, H. B. Balch sur, 150 ft to s and w lines. R. R. Clark, Monaker 1, No. 11 AB&M sur, 450 ft to n and 150 ft to e lines.

Webb County—O. W. Killam, Bruni 1, S 585, GC&SF sur, 150 ft to n and 600 ft to e line. Bruni 1, Albercas sur, 1470 ft to w and 150 ft to s line. Huig 1, Albercas sur, 150 ft to n and e lines. Jones-Garcia Oil Co., Garcia 3, No. 463 sur, 300 ft w of 2. Laredo Oil Co., Garcia 12, S 458, n central. Murchison Oil Co., Bruni 3, blk 45, 1650 ft to n and 200 ft to e line.

Wilbarger County—Milham Corp., Waggoner 14B S 31, blk 4, H&TC sur, 300 ft sw of 6. Phillips, Waggoner 003, S 47, blk 2, H&TC sur, 220 ft to n and w lines.

Winkler County—Southern Crude Oil Purchasing Co., Hendricks 1A, S 44, blk 26, P. C. S. L. sur, 330 ft to s and e lines.

Young County—Robert Oil Corp., Stewart 1, D. Dawson sur, 50 ft to n and 150 ft to e line. Stafford & Harper, Mathews 3, A. Rohus sur, ne corner. Seabord Oil & Gas Co., Graham 4, S. Tankersley sur. Nash & Windfohr Oil Corp., Ware 1, J. W. Manning sur, 920 ft to n and 200 ft to w line. King Royalty Co., Benson B 29, 1450, TE&L sur, 300 ft w of 27; 28, 300 ft s of 27. Continental Oil Co., Benson 5, 1450, TE&L sur, 300 ft s of 1. Wooten & Reed et al, Jack 4, blk 23, Y. C. S. L. sur, nw corner.

Zapata County—Texas Co., Jennings 5, C. Blanco sur. Buffalo Erie Synd., Vila 3, blk 2, R. W. Hills sur, 150 ft to w and 200 ft to s line.

MOUNTAIN STATES

WYOMING

Local Oil Co., 3, sw 32-58n-99w.

COLORADO

Canon City Oil Synd., Florence 1, nw 34-18-70. Continental Oil Co., Florence 586, sw 1-19-70. Fox Synd., Florence 1, se 27-8-70.

NEW MEXICO

Texas Prod. Co., 1, 25-16s-31e. Ventura Pet. Co., 1, ne 18-7n-21e. Morton Synd., Lea County 1, nw 28-18-38.

UTAH

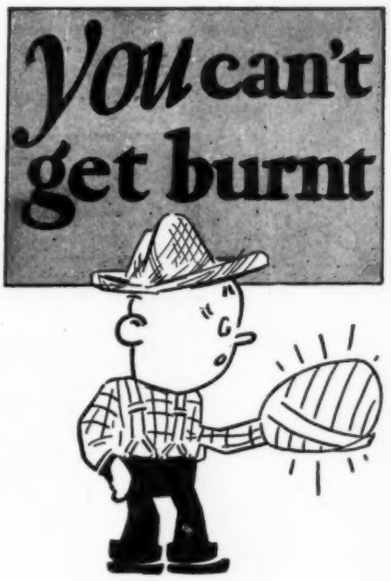
California Pet. Co., 51, sw 34-27-113w; 6D, Lot 6, 3-26n-113w; 6H, sw 34-27n-113w. Claremont Oil Co., A-11, sw 34-27n-113w.

MONTANA

California Pet. Co., No. 7, ne 28-35-2. Calpet Oil Co., 6, nw 28-35-2. Fulton Oil Co., 22, nw 31-35-1; 23, nw 31-35-1; 24, nw 31-35-1. Carter Oil Co., 1, ne 25-34-1.

Appoint Houston Sales Representative

Houston, Texas. — The Lawrence-Anderson Sales Company of Houston has been appointed sales representatives and distributors of the Texas Electric Steel Sucker Rod in the Gulf Coast district. This rod is manufactured by the Texas Steel Company at Fort Worth, and the new Gulf Coast market outlet for the product was negotiated by H. P. Bostaph, sales manager of the company.



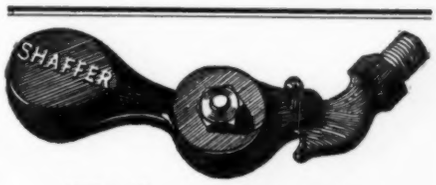
with a Shaffer, either your arm or your pocketbook!

With Shaffer Boiler Gauge Cocks you are not in constant fear of getting burnt, as Shaffer gauges have a cavity around the wheel to prevent the steam from burning your arm when handle is raised.

Used in oil fields all over the world. They MUST BE GOOD when Broderick, Donovan, Farrar & Trefts, Kewanee, Lucey and Titusville boilers are coming equipped with them.

Try a set from your Supply Store and you'll wonder how you ever got along without them.

J. E. SHAFFER CO.
316 Mid-Continent Bldg.
Tulsa, Oklahoma



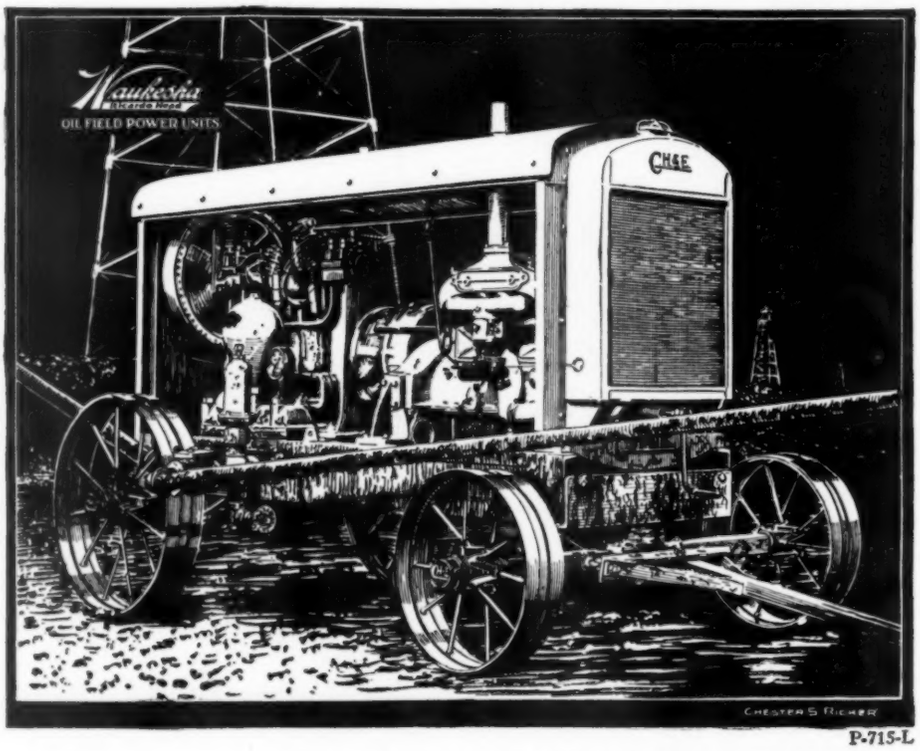
Price $2.25

All Parts Are Interchangeable

Made in two sizes, ½ or ¾-inch. Furnished with combination fibre wheels or a special all-metal wheel for strong alkali water. Extra wheels 25c each.

SHAFFER
the Standard Boiler Gauge Cock

Waukesha Equipped C. H. & E. Triplex Pump at Tonkawa.



P-715-L

For Pumping Out Oil Sumps

This 4½x5½ inch, three cylinder portable pump has proven its ability to successfully meet the oil field requirements for pumping out oil sumps. Its capacity at 500 pounds outlet pressure is 4800 gallons per hour. Due to its light weight and rugged running gear it is readily portable. Also all of these are equipped with the standard Waukesha "Ricardo Head" Oil Field Power Units.

For pumping or flowing wells, drilling with either cable or rotary tools you can find no more reliable power than Waukesha "Ricardo Head" Oil Field Power Units. They are built in various sizes from 30 to 125 H. P. They run on gasoline or "waste" gas, use little of it and can be depended upon for continuous duty. They are handled by oil field men who know your requirements and render the kind of personal service you want. For full information write Waukesha Motor Co. or any of the below named companies.

P-722-L

OIL INDUSTRY EQUIPMENT DIVISION

WAUKESHA MOTOR COMPANY

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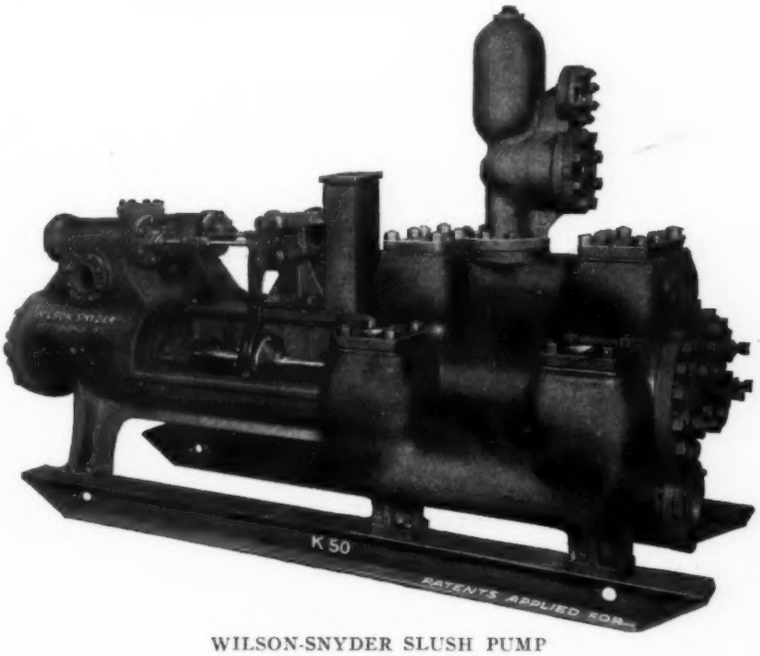
New York	Kansas City	Denver	Tulsa	Houston	San Francisco
Aeolian Building	*V. L. Phillips Co.*	*Wilson Machy. Co.*	*C. F. Camp Co.*	*Portable Rotary Rig Co.*	*C. A. Watts*

Exclusive Builders of Heavy Duty Gasoline Engines for Over Twenty Years

NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS



WILSON-SNYDER SLUSH PUMP

Slush Pump for Deep Rotary Drilling

Deeper rotary drilling is constantly making demands on equipment manufacturers, and to meet this demand for durable pumps, Wilson-Snyder, Pittsburgh, Pa., have perfected and are marketing a slush pump recommended for use on deep tests.

Other well known Wilson-Snyder features are embodied in the new pump, principally the long stroke, direct flow and balanced steam piston valves. No. 18, as the pump is called, has 14-inch steam cylinders, 7-inch pistons by 18-inch stroke. The long stroke cuts down reversals, and with the direct flow design, full volume is obtained. The piston steam valves are balanced and are said to operate without a drag at all steam pressures.

The pump consists of three main castings, namely: The fluid end, the steam end with cradle, and the air chamber with strainer chamber. There is one connection between the fluid and steam ends. The fluid end is supported by four feet and the steam end by two, making a total of six, all bolted to "H" section steel beam skids.

The suction is cast integral with the fluid end which allows only one joint between suction valves and suction line. The air chamber and discharge connection are out of the way. The end flanges are in the same plane. The cradle end of the liners is easily reached through the suction valve chamber.

The steam inlet is located on top and connection can be made from any direction. There is a steam exhaust connection on each side of the pump, and whichever is convenient can be used.

Rigidity and accessibility are given as outstanding features in the pump.

More information can be had from the company by request.

D. & M. Pistons in Mid-Continent

Houston, Texas.—The Texas Rubber Specialty Company, 803 Franklin Avenue, Houston, with branches at Dallas and San Antonio, has been appointed Mid-Continent representatives for the D. & M. Piston Company, Long Beach, Cal.

A complete stock of D. & M. pistons will be carried at the Texas Rubber Specialty Company stores.

Herbert W. Millmine, president of the company in Houston, has made extensive studies in rubber chemistry and will be glad to consult with anyone needing his services.

The D. & M. piston is widely used in California and has been favorably introduced to the Mid-Continent.

White Two-Ton Truck For Speed

Designed for operation in the medium capacity class at high speed, the new White two-ton truck should find a ready market in the oil industry.

The engine, which is combined with the clutch and transmission in a unit power plant assembly, is of the "L" head, four-cylinder Mono bloc type with removable cylinder head. Combustion chambers are machined.

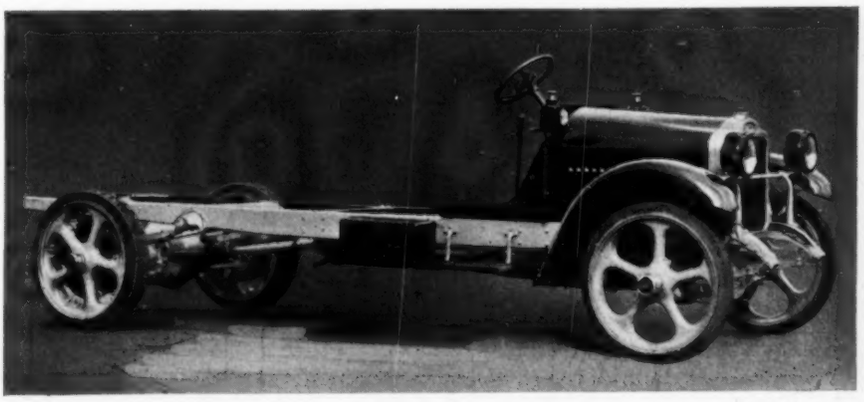
Aluminum alloy pistons of the constant clearance type are used. It is claimed that these pistons insure smooth operation and also assist in keeping the lubricating oil in a clean condition.

The crankshaft is of rugged construction and ample bearing surface is provided.

Connecting rods of I-beam section have direct babbitted bearings and are provided with a drilled hole running lengthwise through the rod, which enables oil under pressure to be fed to the piston pin bearings. The piston pins float in both piston and the connecting rod end.

The lubrication system provides for a continuous supply of oil under pressure to all crankshaft, camshaft, connecting rod and piston pin bearings. By means of an exclusive feature, all return oil must pass into a settling chamber before passing up into the oil reservoir through a screen of generous area. This separates any sediment that is present and insures that only clean oil is supplied to the pump.

A relief valve automatically controls the maximum pressure and is fully operative irrespective of weather conditions and variations in the viscosity of oil. The timing and pump driving gears are lubricated through an adjustable orifice set in the main delivery tube which regulates the oil pressure in direct proportion to the engine speed. Piston and cylinder walls are continuously lubricated through metered slots in the connecting rod bearings. Oil control rings are provided



WHITE TWO-TON TRUCK CHASSIS

to maintain the necessary oil film on piston skirt.

Three-point suspension of engine is used to relieve the aluminum crankcase of undue strain.

The cooling provided by positive water circulation is effected by a gear-driven centrifugal pump.

The radiator consists of a heavy cast aluminum casing with removable cellular core and is mounted on spherical seats with a neatly housed form of spring retention.

The transmission of the selective four-speed type with direct drive on fourth provides a range of gear ratios carefully chosen for ease in operation.

The rear axle is of the single reduction type. Axle spindles are supported at the weel ends by double bearings of the taper roller bearing type.

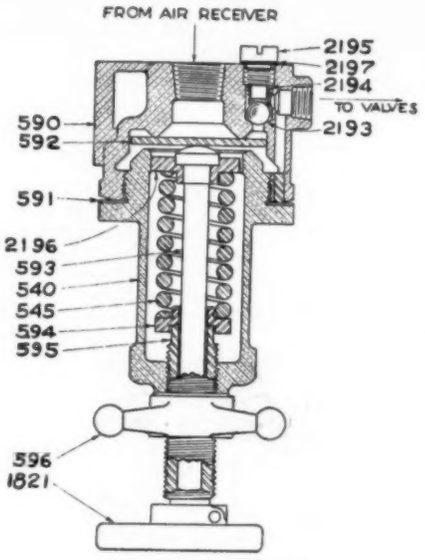
Rear wheel brakes are of the internal exapnding two-shoe type operating in large diameter drums.

More complete information can be had upon application to the White Company, Cleveland, Ohio.

Improved Unloader on Compressor

The Chicago Pneumatic Tool Company, 6 East 44th Street, New York City, N. Y., has recently developed a differential unloader for its compressors, which is said to have many superior features.

The valve 592 is a single plate of stainless steel ground to a flat surface. The diameter is also ground to fit cap 590 with a few thousandths clearance. The edge is well rounded to prevent its sticking as a result of cocking on its seat. Cap 590 contains a ball check valve 2193, spring 2194, and ball check screw 2195. The flanges by which the



SIMPLATE UNLOADER

unloader is attached to the compressor or panel are on the cap. This permits dismantling the unloader for examination or cleaning without disturbing the piping or valves. The device operates with a five-pound range between unloading and loading the compressor. An unloader is set to unload generally with 100 pounds and the reloading pressure is five pounds lower, or 95 pounds.

As the air pressure rises to 100 pounds the pressure on the upper side of the valve 592 balances that of the spring on the under side of the valve 592 and air escapes past the seat into the annular space around the outer edge of the disc. Because of the close fit of the disc in the cap 590 and the ball check valve the air cannot escape and a slight pressure is built up, which, acting upon the surface of the disc, balances the pressure of the spring on the lower side of the disc and the disc moves down against the seat in the body of 540. The ball check valve is then exposed to full receiver pressure and being held on its seat by a very light spring immediately moves off the seat and uncovers a quarter-inch hole for air to pass through on its way to the unloading inlet valves.

Upon a drop of receiver pressure equal to the range, in this case five pounds, the pressure of the spring 545 balances the pressure due to the air on the disc and causes it to permit leakage past the lower seat into the space around the stem. This leakage is restricted slightly by the upper spring holder 2196, which is a moderately close fit in the body 540 and a slight overbalancing pressure is built up which causes the valve disc 592 to return to the upper seat with a positive movement and air is vented from the unloading piping past the upper spring holder.

The action of the valve in opening and closing is positive and because of the absence of tight lapped fits its response to pressure changes is accurate.

The unloader is now built for standard pressures from 50 to 125 pounds; for low pressure work of 40 pounds or less, and for high pressure work up to 500 pounds.

Further information can be secured from the company on request.

GASO PUMP AND BURNER PLANT

Gaso Pump Company Adds to Plant

Tulsa.—With the completion of another building at the company's plant here, the Gaso Pump and Burner Manufacturing Company has increased its facilities for turning out its products and at the same time accomplished an enlargement in capacity.

The new building measures 56 by 93 feet and was necessitated by the steady increase of the business, which now includes every active oil field in this country as well as foreign countries, where Gaso products are now in use. With the completion of this structure the company's total floor space is 15,450 square feet, exclusive of the Tulsa Iron Works, which is under the same ownership. The Tulsa Iron Works was established in 1918 and now is melting 18 tons of metal a day, used in castings for Gaso products.

Gaso Pump and Tulsa Iron Works now are employing 184 men in their various plants.

The Gaso Pump and Burner Manufacturing Company was established in 1916, financed with Tulsa capital and under the direction of L. D. Armstrong. The first building was 40 feet by 70 feet, and in 1918 the original building at First and Lansing Streets, was enlarged by 80 feet, making it 40 feet by 150 feet, and soon another building went up, 50 feet by 96 feet. The building just completed is the latest addition to the company's manufacturing facilities.

At the beginning Gaso Pump and Burner Manufacturing Company started

Buckeye

put it through Louisiana Swamps and Jungle

Four Buckeye Ditchers cut this 170-mile ditch from Northern Louisiana to Baton Rouge—one of the largest natural gas pipe lines in the country.

Buckeye Backfillers put the dirt back in the trench.

These Backfillers, used as cranes, handled the 45,000 joints of heavy pipe—weighing nearly 2,000 pounds per joint.

Ditcher-Backfiller-Crane

Truly, this is an all-'round Buckeye job. Ford, Bacon & Davis, Inc., the engineers; Williams Brothers, Inc., the contractors—and Buckeyes—*all contributed to the success of this thirteen million dollar project.*

Write for information which will help *you* pick the right Buckeye for *your* needs.

This Buckeye User Says—

"We have been using Buckeye Ditchers for ten years. We are using on this job four No. 4 Specials, digging a ditch 30 inches wide and 5 feet deep. We dig from 1000 to 3600 feet per day of 24 hours, depending on the ground and stumps and swamps. On this job we have used Buckeye Backfillers with good success—also the Backfiller as a crane for handling pipe. This does away with 24 men. This is the best machine made for this purpose."

WILLIAMS BROTHERS, Inc.
Tulsa, Okla., Contractors.

The Buckeye Traction Ditcher Co.

Manufacturers of Trench Excavators (both Wheel and Chain-and-Bucket Types), Pipe-Line Trench Excavators, Tile and Open Ditchers, Back-Fillers, Pipe Screwing Machines, Curb Diggers and Clay Diggers.

Findlay, Ohio

There's a Buckeye Sales and Service Office near You

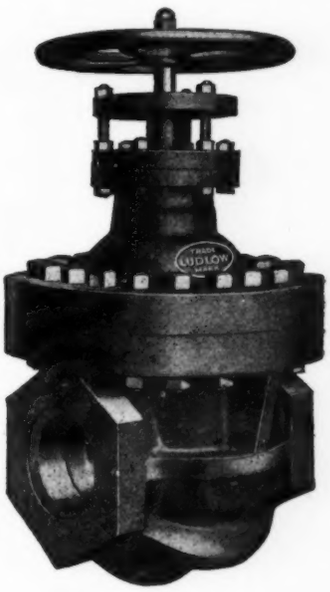
Buckeye FOR OVER 30 YEARS

The Ludlow

The LUDLOW VALVE

Manufactured in all sizes for any pressure for

EVERY VALVE NEED



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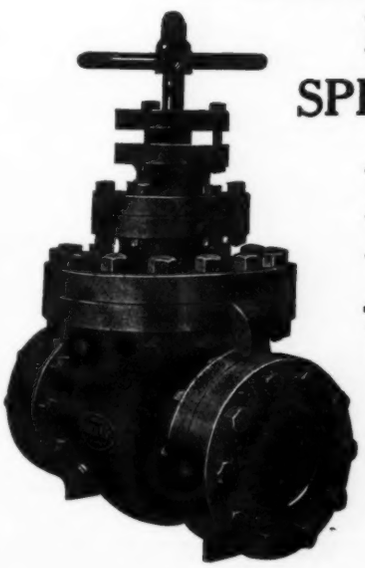


Send us your inquiries.

The Ludlow Valve Manufacturing Co.

TROY, NEW YORK
KANSAS CITY
PITTSBURGH
CHICAGO
BOSTON

TRADE LUDLOW MARK

Double Gate Parallel Seat Valve

making four types of pumps in 14 sizes. Now they make 36 types in 84 sizes, and recently have developed a new portable pumping unit that has been received well wherever it has been introduced.

Officials of the Gaso Pump and Burner Manufacturing Company are T. J. Flanagan, president; M. J. Flanagan, vice president, and L. D. Armstrong, treasurer and general manager. Officials of the Tulsa Iron Works Company are Thomas J. Flanagan, president; Michiael J. Flanagan, vice president, and James E. Winger, general manager.

Deming Announces New Pressure Pump

The Deming Company of Salem, Ohio, manufacturers of hand and power pumps, is now marketing through its oil field representative, The Smith Separator Company, a new type of automatically oiled high pressure pump. These pumps are the fully enclosed type, the gears, eccentrics, crossheads and other moving parts operating in a bath of oil which is supplied from the gearing. They are built in duplex, triplex and quadruplex types and have several unique features of design, a few of which are as follows: only one small casting subject to high pressure, stuffing box glands packed against suction only, ascoloy stainless steel piston rods and eccentric drive from stationary main shaft.

These pumps range in capacity from 17 to 43 barrels per hour and for pressures from 300 to 500 pounds per square inch. For gasoline driven unit they are regularly furnished with the type U-2 cylinder Novo engine which has internal gear reduction and built in clutch. With this construction no moving parts are exposed except a flexible coupling. Other types of drive can also be furnished such as electric motor drive with intermediate gearing and pulleys for belt drive.

They are especially recommended for water supply, for handling remote oil production and for putting oil from leaks and breaks back in the main line under high pressures.

Write Smith Separator Company, Tulsa, for special bulletin on this unit which will give you more complete and interesting details.

Welding Equipment Catalog

Smith Welding Equipment Corporation, 2619-33 Fourth Street, S. E., Minneapolis, Minn., has issued a pocket size catalog.

This junior catalog describes Smith welding and cutting equipment and illustrates most of the items.

Copies can be had upon request to the company.

New Source of Supply for Tubular Goods

Houston, Texas.—With the combining of four of the largest German steel mills, and the establishment of sales representation in the United States, another source of supply for tubular goods is now appearing to do business with the oil industry.

Heretofore, this foreign steel has been handled in the Houston territory by the American Seamless Tube Corporation. Since April 1, the Payne Steel Company of New York has operated from its district office on the seventh floor of the Esperson Building, Houston, serving the Mid-Continent and Gulf Coast fields. The Pacific Coast will be served by the American Seamless Tube Corporation of California.

Harold Payne of New York is president of the Payne Steel Company. Otto Hafka, formerly general manager and incorporator of the Vulcan Steel Products Company, is the sales manager, with headquarters at Houston. The company will be in a position to make deliveries from Houston stock as it has for the past several months.

Harold McAtear is president of the California Corporation with headquarters in Los Angeles.

A complete stock of various sized casings will be carried in both districts. This casing and other tubular goods are known as the Mannesmann Seamless Steel tubular products.

New Distributors for Novo

Lansing, Mich.—Novo Engine Company, with headquarters in this city, have recently announced the following new distributors:

Construction Equipment Company, Columbia, S. C.; San Antonio Machine and Supply Company, San Antonio, with branches at Corpus Christi and Waco, Texas; H. E. Erickson Company, Inc., 114 South Third Street, Minneapolis, Minn.

The Construction Equipment Company will handle the complete line of Novo industrial equipment engines, hoists, pumps, and combination outfits, serving the State of South Carolina.

The South Central part of Texas will be served by the San Antonio Machine and Supply Company.

H. E. Erickson Company, Inc., will cover the north central territory.

Canton Firm Opens Dallas Office

Canton, Ohio.—The Young Engine Corporation with headquarters in this city announces the appointment of H. A. Laurence, 2507 Commerce Street, Dallas, Texas, as Mid-Continent representative.

Mr. Laurence is well known to the trade in this territory, and has spent considerable time in design and construction of the Young engine.

Jones Sucker Rods have pleased for Thirty Years.
S·M·Jones Company,
TOLEDO · OHIO
Tulsa Office: 602 Wright Building

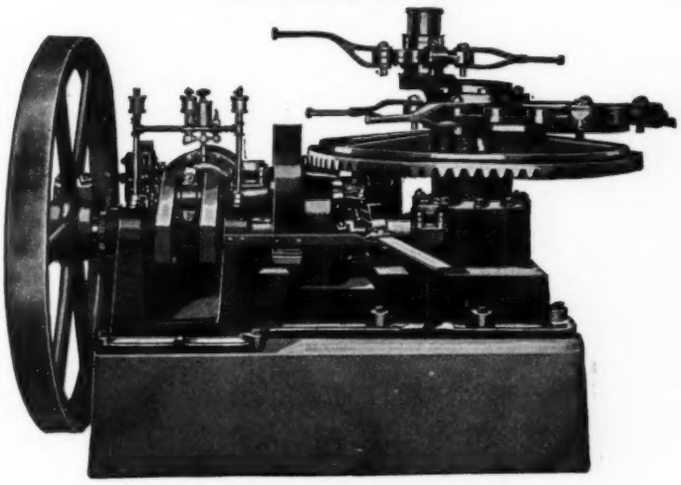
HARRY A. CAMPBELL F. LEE STEWART
NATIONAL PETROLEUM ENGINEERING COMPANY
ENGINEERS AND GEOLOGISTS
ATLAS LIFE BUILDING
TULSA, OKLAHOMA
APPRAISALS
REPORTS, COMMERCIAL AND TAX
SURVEYS
ESTIMATES OF OIL RESERVES

Pattin Combination Geared Power

Patented May 26, 1925

Manufacturers of

Gas Engines
Pumping Powers
Water Pumps
Air and Gas Compressors
Vacuum Pumps



Manufacturers of

Oil Country Boilers
Steel Storage Tanks
High Pressure Tanks
Howe Casing Heads
Torpedo Reels and Clamps
Shackle Irons

Fitted with an eccentric and disc making it really a double eccentric power, direct connected to a Pattin Standard 4-cycle Gas Engine.

Rigidly constructed—built in two sizes 15 and 20 H. P.—it is without question the most practical and efficient pumping outfit on the market.

This combination is also built in 8 and 12 H. P. sizes with single disc.

Write for Circular

PATTIN BROTHERS COMPANY

Marietta, Ohio

COMMISSIONER'S SALE

THE COMMONWEALTH OF KENTUCKY
Allen Circuit Court
No. 3473
Richard C. Baker, Plaintiff,
Versus
Inter-Cities Oil Co., Defendant.

NOTICE OF SALE

By virtue of a judgment and order of sale of the Allen Circuit Court, rendered at the January Term thereof, 1927, in the above cause, for a settlement of the affairs of the Inter-Cities Oil Co., I shall proceed to offer for sale at the Court House door in the City of Scottsville, Kentucky, to the highest bidder, at public auction on Monday, the 11th day of April, 1927, at One o'Clock, P. M., or thereabout (being County Court Day), upon a credit of 3 and 6 months, the property of the Inter-Cities Oil Co., being an up-to-date Oil Refinery, with all property and accessories, including pipe lines, usual and common to such properties.

The personal property will be sold in units at the Refinery at Scottsville, Kentucky, and small bidders will therefore have a chance to buy such articles as they may need. Inventory may be seen at the office of the Undersigned.

Purchasers may pay cash at their option, or execute usual bond.

Witness my hand this 21st day of March, 1927.

Master Comr., Allen Circuit Court
G. W. WEAVER,

BAROID

also protects drilling equipment

IN addition to making the drilling of wells safer, Baroid has remarkable sliming properties. It forms a coating over the drill stem and over the inside and outside of the casing, protecting these important parts from the friction of "cuttings."

Stocks of Baroid are carried by:

PEDEN IRON AND STEEL CO.,
Houston, Texas
PEDEN IRON AND STEEL CO.,
Shreveport, La.
ARKMO LUMBER CO.,
El Dorado, Ark.
THOMAS E. ROBINSON,
Tulsa, Okla.

NATIONAL PIGMENT & CHEMICAL COMPANY
ST. LOUIS, MO.

[Dunn Toolagram]

"Well, well, Efficiency old top, here we are at last. So this is Houston, huh?"

"Yeah, Safety, this is Houston, and it's a right smart little burg at that. Poor old Speed seems to be sort o'tired out."

Howdy, Folks—

Here we are at last, fellas. We've been a long time gettin' here, but you know it's a long walk from California to Houston.

My name's Dunn Safety, and I'm elected spokesman for the Dunn trio today. We're billed to do a little skit in this spot every other week during the next twelve months—26 performances. As we just arrived, we're kinda tired and haven't much to say, so you'll excuse us this time, I know.

Say, do you know that par-shootin' young fellow who runs this oil man's paper? He's a right upstandin' sort—from away out there in the open spaces where [illegible] fore-handed and operate two guns, but the women govern. But he don't know a cow from a jackass. About the first thing Dud (nothin' disrespectful back o' that) sprung on us when we pulled up, was: "Hello boys—come a runnin' now and get cleaned up a bit—we're about ready to go to press—but tie the old bull outside."

Speakin' of cleanin', reminds me of a friend of mine. Every time his wife starts to tell a joke in company, old Bill fidgets a little and says: "Now clean it up a little honey, remember we're out among the ayelite."

I saw a picture in the paper this morning—a young lady sittin' on top of the second oldest safe in the country. That's bad business. And there's too many o' these flappers sittin' pretty on old chests. If you don't think so, ask Daddy Browning.

Well I hope you like us folks. If you do, say so. And if you don't, say so too. We'll be back here again April 22nd. So long.

Dunn Safety
for the Dunn Triplets.

SQUEAKS FROM THE BULL WHEEL

Out of Practice

"Well, Algy, I hear you have taken up walking as the doctor ordered. How does it go?"

"Seems a bit awkward at first without a windshield!"—Louisville-Courier-Journal.

Traffic As Usual

Grandpa, in a speedy car,
Pushed the throttle down too far;
Twinkle, twinkle, little star,
Music by the G. A. R.
—Syracuse Motorist.

And now I lay me down to sleep,
Mid feather beds and clean white sheets;
If I should die and take the air—
I'll never change another spare.
—Syracuse Motorist.

Angelic Problem

A lassie of ten years was seated in front of the fire playing with her pet kitten. The child, who was both religiously and musically inclined, suddenly turned to her mother and asked: "Mother do cats go to heaven?"

Her mother replied: "I do not believe they do? But why do you ask?"

Much to mother's surprise the child questioned: "Then where do the angels get their harp strings?"

No Such Place

"Where did the car hit this man?" asked the lawyer when questioning the attending physician at the trial.

"At the junction of the dorsal and cervical vertebrae," responded the doctor.

The foreman of the jury rose in his seat and remarked: "I've lived in this country for upwards of fifty years and I know every crossroad, but I never heard of any such place; I believe it's a made-up case."—Buffalo Motorist.

That's Different

Judge—The policeman reports that you were going at a sixty-mile rate.

Prisoner—That was necessary, your honor. You see, I had just stolen the automobile.

Judge—Oh, that's different. Case dismissed.—The Outlook.

Oh, Baby!

"My husband certainly is fond of children."

"Why do you say that?"

"Last night he was talking in his sleep and he said, 'Come on, baby and kiss your sweet papa.'"

Antony's Job

We have come to bury Caesar, not to praise him.

Who said that?

Some undertaker.

How He Felt

A young man was learning to play a saxophone.

"Does my practicing make you nervous?" he asked the man next door.

"It did when I first heard the neighbors discussing it," was the reply, "but I'm getting so now that I don't care what happens to you."

His Reward

"But," protested the new arrival, as St. Peter handed him a golden trumpet, "I can't play this instrument. I never practiced while on earth."

"Of course, you didn't," chuckled the old saint. "That's why you are here."

Pretty Close

First Stude: "How near were you to the right answer to the fifth question?"

Second Stude: "Two seats away."

Modernized "Jingle Bells"

Blow that horn, blow that horn, jump upon the gas,
Oh, what red hot fun it is, another car to pass!
Roaring down a concrete road, the surface sure and fine,
Give her all that's comin', kid, we're touching eighty-nine.
Ninety-five the meter says, the speed laws all are hash,
Holy sweet patootie, but we're headed for a crash,
Toll, oh bells, toll, oh bells, keep tolling all the day,
For another sorry dumb-bell's busy being laid away.

No Alarm

Mother (to her daughter's music master): "Do you think, Mr. Crotchet, that my daughter will ever be able to do anything with her voice?"

Music Master: "Well, madam, it might come in useful in case of fire."

In Reverse

Masculine: "How old are you?"

Feminine: "I've just turned twenty-three."

Masculine: "Yes, I thought you were about thirty-two."

Publicity

"To each man who has worked for me for twenty years I give and bequeath $5000," says the dying merchant.

"But," said his lawyer, "you have not been in business twenty years."

"I know it; but it's good advertising."

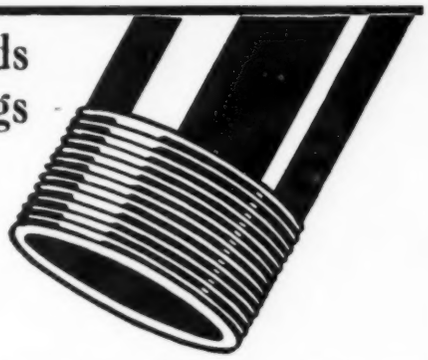
Officer: "Not a man in this division will be given liberty today."

Private (in rear rank): "Give me liberty or give me death."

Officer (sharply): "Who said that?"

Private: "Patrick Henry."

New Threads and Couplings make this pipe a genuine bargain!

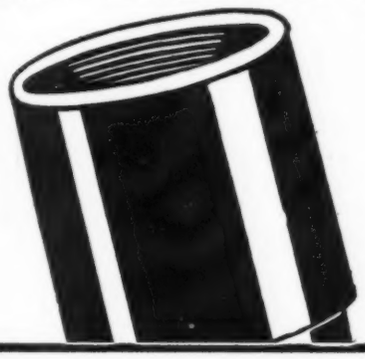


Save money with Greenspon's pipe—prices run ⅓ to ½ lower. You get guaranteed pipe, every length of which has been thoroughly inspected, equipped with new threads and fitted with new couplings. You will get years of service from it.

Greenspon's casing, and ODEE pipe for gas lines, are likewise guaranteed! Ready at our yards in sizes to suit your needs, for immediate shipment.

Write today for prices—see for yourself how much you can save!

JOS. GREENSPON'S SONS



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Tulsa, Okla.
Fort Worth, Texas.

LAP-WELDED IRON & STEEL TUBES

Large warehouse stocks enable us to fill orders promptly. Charcoal Iron and lapwelded steel tubes to serve all purposes.

Ask for particulars

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Harrisburg Pipe & Pipe Bending Company of Texas, Inc., Houston, Texas, Harrisburg Supply Co., Tulsa, Oklahoma, A. M. Castle & Co., Chicago, Ill.; A. M. Castle & Co., Seattle, Wash.; A. M. Castle & Co., San Francisco, Calif.; A. M. Castle & Co., Los Angeles, Calif.; Johnson-Peter Co., Pittsburgh, Pa.; Johnson-Peter Co., Brooklyn, N. Y., Bourne-Fuller Co., Cleveland, Ohio; Lukens Steel Co., New Orleans, Lo.

Special Representatives:

W. M. McCleary, 2 Rector St., New York City; W. H. S. Bateman & Company, Philadelphia, Pa.
George W. Denyven, Boston, Mass., New England Representative.

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TRADE MARK REG. U.S. PAT. OFFICE

STEEL BELT LACING

BELTS steel-ended with Alligator Steel Belt Lacing and joined with Alligator Sectional Steel Rocker Hinge Pins are exempt from most belting troubles.

This smooth hinged lacing gives long, efficient service on all kinds and sizes of belts. Use Alligator Steel Belt Lacing confidently on your belt drives.

Consultation invited. Sold the world over by the belting, mill supply and hardware trades.

Flexible Steel Lacing Co.
4645 Lexington Street
Chicago, U. S. A.

In England at 135 Finsbury Pavement, London, E. C. 2

Modern methods of management require fence protection for industrial property. This protection is doubly necessary in the oil industry, with its valuable equipment and ever-present hazards. Leading producers, refiners, and marketers standardize on Cyclone Fence, in wire and wrought iron, for every fencing requirement.

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